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DETROIT

Automotive Daily News

CARS · SHOP EQUIPMENT · TRUCKS · AVIATION · PARTS · ACCESSORIES · TIRES

Vol. 12. No. 1623 — Entered as second class matter, Aug. 27, 1925, Post Office, N. Y., N. Y., Under Act of March 3, 1879. — NEW YORK, FRIDAY, DECEMBER 18, 1931 — 5 Cents. $12 Per Year.

Stewart Announces 8-Cyl. 2½ Ton Truck Chassis At Base Price of $2,390

New Model, to Be Known as Model 58-8, Is on Standard Wheel Base of 170 Inches; Others Available

BUFFALO, N. Y., Dec. 17.—The Stewart Motor Corporation of this city today announces a new 2½-ton chassis, powered with an eight-cylinder engine, to be known as the 58-8. This eight-cylinder chassis is priced at $2,390.

The eight cylinder engine of the 58-8 is of the L-head type, with a bore and stroke of 3⅜x4½, giving a piston displacement of 322 cubic inches and developing 100 horsepower. Three point suspension is used, with rubber mountings. The crankshaft is equipped with a balancer on the front end. Lubrication is full force. Valve stems and tappets are automatically lubricated by spray from the crankcase. A Swan type manifold is used with heat control. The cylinder block and head are removable.

The radiator is of the tubular type, with the core, top tank and bottom tank in a single unit. This unit is mounted in a cast aluminum shell, which in turn is mounted on the front cross-member. Engine temperature is controlled by a thermostat.

Delco-Remy ignition is used and magneto equipment may be had at extra cost. The carburetor is a

(Continued on Page 8)

1932 AUTOMOTIVE FREIGHT CAR NEEDS PUT 10% OVER 1931

Detroit, Dec. 17.—Representatives of industries in four states, meeting as the Great Lakes Regional Advisory Board here this week, estimated requirements for freight cars during the first quarter of 1932 would decrease 5 per cent. under actual requirements of the same period this year.

The region for which the estimate is made comprises Michigan, northern Ohio, western Pennsylvania and western New York.

K. A. Moore, traffic manager of the National Automobile Chamber of Commerce, estimated that freight car requirements for automobiles would increase about 10 per cent.

CHRYSLER PREDICTS IMPROVED SALES IN '32

Chicago, Dec. 17.—While car sales at the tag end of 1931 are at a standstill on the Pacific Coast, indications are that 1932 will present a much better picture for the motor industry and that West Coast sales of cars will improve, Walter P. Chrysler, president of the Chrysler Motors said, upon his return from Los Angeles.

"Production schedules for Chrysler products will be heavy for the first part of the year in anticipation of better demand for new cars. The slightest tremor of good times in general business will be reflected quickly in new car sales," he said.

NEW DE SOTO LINE TO APPEAR JAN. 9

Detroit, Dec. 17.—The Chrysler Corporation, it is reported here, will introduce its new De Soto six line, January 9, listing under $700.

NEW DE VAUX 80 OFFERS BODY AND CHASSIS CHANGES

Grand Rapids, Mich., Dec. 17.—With the introduction of its new Model 80, De Vaux has added a convertible coupe to its body models. This new model has a compartment into which the top disappears quickly, giving a roadster type of vehicle at the driver's will.

A number of chassis changes have been made in the De Vaux 80. The axles front and rear have been increased in size. Brakes are larger. Improved cam and lever steering gear is fitted. A larger radiator is employed on this new model. The wheel base of the Model 80 has been increased an inch to 114. Smaller wheels and larger tires are used on the new car.

The engine used in the last model with its six-port intake, is continued in the new line. Syncromesh and free wheeling are retained.

The De Vaux sedan is two inches wider in the rear seat than was last year's model. The body overall length is 68⅜ inches.

R. H. Mulch, sales manager of De Vaux, calls attention to the fact that after one year of manufacture, more than 8,000 De Vaux cars are in owner hands throughout the United States. The dealer organization has been built up to a point where it now embodies more than 800 merchants. Foreign connections have been made in many European countries, in South America, South Africa and in the Orient.

Several Key Cities Showing Improved Sales in December

Louisville, Ky., San Antonio, Tex., and San Francisco, Cal., Show Gains Over First Half of November

NEW YORK, Dec. 17.—Automotive Daily News has completed its mid-month check-up on sales in various key cities and finds conditions fairly satisfactory in most of the places queried.

In the city of St. Paul, Minn., and Ramsey County, its territory, sales up to the 15th of December were 113 passenger cars and 16 trucks, as against 133 passenger cars and 17 trucks for the same period of December, 1930. In the first half of November this year sales were 145 passenger cars and 14 trucks. These figures were compiled by the Minnesota State Automobile Dealers Association.

The Cleveland, O., Automobile Manufacturers and Dealers Association wires us that sales in that city up to December 15 were 653 new cars and 3,975 used vehicles. No direct comparison is available, but during the entire month of December, 1930, sales were 1,669 new vehicles and 11,982 used units.

In Louisville, Ky., sales for the first half of December registered a gain over both November and October of this year. The total up to December 15 was 157 vehicles, including twenty Chevrolet taxicabs, sold to a local company. In November and October of this year the sales total for the first half of the month was 138 vehicle units, the same in each case.

Through the courtesy of the San

(Continued on Page 3)

CADILLAC DEALERS VIEW NEW MODELS AT DETROIT PLANT

Detroit, Dec. 17.—For the first time Cadillac Motor Car Company has brought its dealers to the factory to look over the new models and to listen to the plans for the coming year. Heretofore only the distributors have participated in these affairs.

More than 800 of the distributors and dealers assembled in the Masonic Temple this morning for a two-day session with President Lawrence Fisher.

President Fisher announces that so far as his company is concerned there has been no dealer mortality this year. Since last January the company has added more than 400 outlets for its products.

LYCOMING MOTORS GETS BIG AUBURN CONTRACT

Williamsport, Pa., Dec. 17.—More than 1,000 workmen, idle many months, will be recalled by the Lycoming Manufacturing Company here about January 1.

The company manufactures motors for Auburn automobiles. The upturn is the result of a $2,500,000 order received recently.

ROCKNE ANNOUNCES PRICES ON NEW SIX-CYL. MODELS

DETROIT, Dec. 17.—Prices on the model 75 Rockne were announced today by Vice-president George M. Graham. They are as follows:

	Standard	De Luxe
Coupe, 2-passenger	$685	$730
Coupe, rumble seat	720	765
Sedan, 4-door	735	780

The de luxe equipment includes six wire wheels, fender wells and trunk rack. There is a chromium-plated ring on each of the six wheels. Also there are assist cords on the rear doors, walnut moldings and garnished panels and an onyx ball on the gear shift lever.

For $25, extra fenders, splash guards and gas tank covers are painted the same as the body, and for $25, metal spring covers and bumpers are furnished.

OAKLAND PLANT EMPLOYMENT UP

Pontiac, Dec. 17.—Increasing employment and greater activity are in evidence at the Oakland Motor Car Company plant here. Factory officials remain silent on the subject of the new models, it being understood the plans for 1932 will be announced in January.

All departments of the factory are on a fairly heavy production schedule, with some departments working nights as well. Employment is at the highest peak since last spring. Former employees are being given preference as the factory personnel is daily increased. As a result, general business in the Pontiac area has shown a marked pick-up.

Illinois A.T.A. Takes Action On Industry's Big Problems

Chicago, Dec. 17.—Motor car dealers of this state discarded kid gloves and handled the big problems of the trade, the industry and car owners in direct manner at the annual meeting of the Illinois Automotive Trades Association, it became known here today, when a contingent of forty Chicagoans returned from the convention at Rockford and reported on the action taken at the sessions.

The attitude of the distributors and dealers was reflected primarily in the resolutions presented and passed at the meetings. These resolutions, divided into two classifications, went on record as favoring the following:

Introduction of new models by manufacturers annually at the end of each year.

National Association of Finance Companies contract concerning payment and storage charges.

Compulsory periodic inspection of motor vehicles.

Grade separations at railroad and highway crossings as well as at important highway intersections, wherever advisable in the interest of safety.

Wider, better and safer highways.

Certificate of title law.

Law permitting the registration of motor vehicles thirty days prior to the beginning of the year without the necessity of paying additional license fee for that year.

At the same time a series of resolutions registered opposition to the following:

Increasing or diversion of gasoline or special taxes, or the regulation of business in general or the motor vehicle trade in particular.

Passage of the drivers' license law in the form recently considered in the state legislature, the same opposition being expressed against recently proposed legislation covering the financial responsibility of drivers, filing or taxing of provisional sales contracts, and compulsory liability insurance on private cars.

Another resolution flatly opposed the imposition of Federal gasoline, luxury or other special taxes on motor vehicles.

The meeting proved the most spirited and best attended of any annual session held by the association in years, with about 250 members in attendance. They plainly voiced their irritation at attempts being made to shackle and discriminate

(Continued on Page 3)

Late News Flashes

San Francisco, Dec. 17.—The General Oil Conservation Committee has ordered a further curtailment of 30,800 barrels daily in this state, beginning December 21.

* * *

Detroit, Dec. 17.—The C. M. Hall Lamp Company has declared a dividend of 10 cents, payable December 23 to stock of record December 21.

* * *

Detroit, Dec. 17.—The Ford Motor Company has inaugurated an experiment in rehabilitating debt-ridden employees in Inkster, Mich. The Ford company backs the debts and puts the debtor at work. It is claimed that if the experiment works here it will be extended.

BROWN SEES 20% GAIN IN NEW CAR CUSTOMERS IN '32

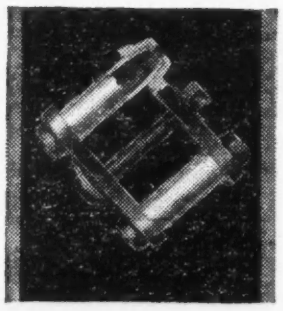
Montreal, Dec. 17.—"On the basis of the three-year turnover, the number of new car customers with cars ready to trade in 1932 should be about 20 per cent. higher than in any year in the history of the industry," according to H. A. Brown, vice-president and general manager of General Motors of Canada, Ltd., in an interview here.

"That is, at the close of 1931 we will be, in the United States and Canada, well over a million cars behind normal requirements, and while it seems hardly possible that any great portion of this volume can ever be recaptured, it places the market in a position to respond vigorously to any revival in general business.

"A volume approaching, or even exceeding, the production of the big year of 1929 would not seem unlikely some time within the next few years, if the cycle runs to form. If, on the other hand, as a result of the present depression, this cycle could be upset, and the making up of shortages be spread evenly over several years, the automobile industry might emerge with greater stability, year in and year out, than ever before.

"General Motors of Canada is in a position where its dealers' new and used car stocks, as well as factory inventory, are at the lowest level in years. It would seem to me that general business is overdue to start a long upward swing, and I would not be surprised to see the automobile industry leading this movement. We have no reason for pessimism in General Motors with regard to our 1932 sales potential. In fact, General Motors of Canada anticipates a slight improvement next year over this. We have completed our regular annual inventories at an earlier date than usual, and we hope to have most of our employees back on pay roll at reasonably satisfactory hours before the year ends."

IMPROVED
Tryon
SPRING SHACKLES



Important new features embodied in Improved Tryon Spring Shackles result in greater inbuilt strength, greater accuracy, increased bearing surfaces, improved lubrication, easier riding and longer life.

Manufacturers: See mechanical specification tables in this issue for Tryon equipped cars. Write for information and quotations.

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WILLYS-MORROW CO., INC.
ELMIRA, NEW YORK

INDIANAPOLIS TRADE GROUP TO HOLD SHOW; DECIDES ON FEB. 13-19

Indianapolis, Ind., Dec. 17.—The board of directors of the Indianapolis Automobile Trade Association met this week and selected February 13 to 19 inclusive as the dates for the city's twenty-first annual automobile show, according to announcement made by E. G. Henry, manager of the dealer organization under whose auspices the show is staged.

Following by just one week the close of Chicago's annual automotive exposition is expected to work to the advantage of the local show inasmuch as some of the expensive chassis and other special displays will probably be brought here direct from Chicago, Mr. Henry believed. In selecting the dates for the local exhibit, he said, care was exercised in avoiding conflicting dates with principal Middle Western cities and with none of the more important shows nearer than Kansas City, Mo., scheduled for the same week the trade group believes Indianapolis will be able to stage a show with more than the usual amount of co-operation from the factories.

Earlier in the fall reports were circulated that opposition to staging a show here this year had arisen among the dealers, but the question of discontinuing the spring show was not considered at the meeting, it is understood.

The board of directors of the association is composed of R. H. Losey, president; Frank Hatfield, vice-president; W. F. Moyer, treasurer; A. W. Hutchison, secretary, and W. J. Robinson, E. L. Shaver, R. V. Law, H. S. Burke, and T. E. Byrne, directors.

13,722 FEWER LICENSE PLATES ISSUED IN IND.

Indianapolis, Ind., Dec. 17.—With the placing of the new 1932 automobile license plates on sale in the state Tuesday, it was disclosed by the secretary of state's office that passenger car licenses during the first eleven months of this year dropped 13,722 below the same period of 1930. The total passenger car plates sold was 731,065 this year, it was reported, comparing with 744,837 last year.

A decrease also was noted in sale of truck licenses, which dropped to 128,671, a loss of 978. Motorcycle licenses also declined, showing 2,780 this year against 2,862 last year.

Trailers showed an increase of 4,746 over 1930, and dealer licenses fell off 148 from 2,760. A total of 1,031 buses applied for licenses, gaining twenty this year, after a sharp drop during recent years.

DUANE JONES VICE-PRES. OF MAXON, INCORPORATED

Detroit, Dec. 17.—Duane Jones, after nine years with Lord, Thomas and Logan of New York city, has resigned the vice-presidency of that agency, effective January 1, to become vice-president of Maxon, Inc.

Jones was formerly manager of the Los Angeles office of Lord, Thomas and Logan. Maxon has handled Reo passenger car and Speed Wagon adevtrising since September 1.

APPROVES BUS LINE

Trenton, N. J., Dec. 17.—The Public Utility Commission has approved consent given by Pleasantville to the Public Service Interstate Transportation Company to route its buses within the city on the Wilmington-Atlantic City route.

Classified Advertising

Classified Rates 5c Per Word

POSITION WANTED

AUTOMOTIVE TRANSPORTATION ENGINEER open for connection to supervise or assist in efficient fleet operation. Recently state supervisor of gasoline bulk hauling. Member S. A. E. Graduate engineer. Box 289, Automotive Daily News, 350 Hudson St., New York City.

NEW YORK SHOW PROSPECTS BRIGHT; NEW EXHIBITORS

New York, Dec. 17.—with thirty-two makes of passenger cars and ten makes of commercial vehicles, and one taxicab on the official list for the thirty-second National Automobile Show in Grand Central Palace, January 9 to 16, and with a constantly swelling list of accessory and shop equipment exhibitors, prospects for the exposition continue to grow brighter as the dates approach.

During the past week eight new accessory and shop equipment makers were added to the list.

This is significant in that a num- Ind.; MotoMeter Gauge and Equipment concerns have a greater feeling of confidence in the National Automobile Show than was the case three months ago and just prior to space allotment. In several instances, definite decision to remain out of the show has been reversed. In the case of certain new concerns, executives see the advantage in offering their products at the show this season even more emphatically than under normal conditions, while old-established companies realize the importance of maintaining the prestige built up in years past.

Additions to the list of exhibitors at the New York show follow:

Accessory List

Automotive Daily News, 350 Hudson St., New York, N. Y.; Electric Auto-Lite Company, Toledo, O.; Atwater Kent Manufacturing Company, Philadelphia, Pa.; Michiana Products Corporation, Michigan City, Ind.; MotoMeter Gauge and Equipment Company, Toledo, O.; Pittsburg Plate Glass Company, Pittsburgh, Pa.; Hobart Brothers Company, 260 West 54th St., New York.

Shop Equipment List

Hall Manufacturing Company, Toledo, O.

AUTOCAR BOOSTS OPERATIONS TO 4 DAYS A WEEK

Philadelphia, Dec. 17.—The Autocar Company is operating four days a week, a little better than the average for the industry, J. C. Taney, vice-president and treasurer, said. "Our business is off about 25 per cent. from last year, which is a little better than the industry as a whole. I don't think we have had as hard a time as some of the other concerns in the automobile industry."

Mr. Taney said he believed the commercial car and truck business had held up relatively better than passenger car production this year. "There is a little more long distance hauling of freight by truck, which has helped the business. It has been, however, entirely a replacement demand.

"Business organizations using trucks were not as much oversold as the public was with passenger cars," Mr. Taney said.

CITIES SERVICE NET CONTINUES GAINS

New York, Dec. 17.—For the fifth consecutive month net earnings and net to stock and reserves of Cities Service Company have shown a substantial increase over the preceding month, it was shown by the company's monthly statement of earnings released today by Henry L. Doherty & Co.

Starting with June as a low point, each succeeding month has developed increased earnings, with net to common stock and reserves for October showing a 31 per cent. increase over September. In November, net to common stock and reserves amounted to $1,514,000, an increase of 60 per cent. over October.

THREE LINES HALTED

Indianapolis, Ind., Dec. 17.—First definite action against state truck line operators threatened in a recent hearing before the Indiana Public Service Commission against haulers without certificates of convenience or necessity was taken here when three lines operating from the Central Union truck terminal were ordered halted.

SPARKS from DETROIT

E. P. Chalfant Returns

* * *

Free Greasing Pays

* * *

Merry Xmas Jim

* * *

Publicity a la Chevrolet

* * *

Holding the Fort

* * *

Chris Sinsabaugh—Detroit Editor

BACK from Atlantic City, where the parts people held their big show, E. P. Chalfant, executive vice-president of the National Standard Parts Association, is throwing out his chest because of the attendance record set by his organization.

Of the 417 members, every one checked in at Atlantic City save fifteen jobbers and nine manufacturers. As for turnstile count, it showed an attendance almost normal. In such a big building it was hard to estimate simply by looking and comparing it with Cleveland last year, for the reason that at the 1930 affair members and guests came at the same time. At Atlantic City members only attended the first three days and the guests had their innings the rest of the time.

But next year the N. S. P. A. favors a Middle West location. A special investigating committee, headed by the new president, V. M. Olson, will make recommendations at the January meeting of the executive board. It is said that Chicago and Cleveland are running neck and neck on this.

As to whether or not there will be another joint show next year, that is something to be decided at a joint meeting later on, the agreement being that each year the two associations will decide as to whether there will be another joint affair.

* * *

SO much interest has been displayed in the free greasing service put on by Pat O'Dea, Detroit distributor for Graham-Paige, that the column offers the latest report on how it is working out. Of course, the big idea back of the free greasing is to get the customer into the service station, where he will be reminded on the need of getting set for the winter stretch. So he patronizes the shop.

So far the daily average of callers for the greasing has been twenty-seven, and of this number 95 per cent. at least have spent money for other service. The estimate is that the shop has made a profit of $2 on each customer, work which it would not have got if the owners hadn't come in for the greasing.

* * *

THE first of the Christmas card crop of 1931 came to the desk last Tuesday, and, of course, it was from that early bird, Jim Sullivan, automobile editor of the Boston Globe, and, of course, it was written in green ink.

Jim writes his own poetry, and this time he says: "Just a bit of paper, and a fountain pen, with the mind directing what to write again; just a rhyme of greeting, wishing you good cheer, for the Yuletide season and the glad New Year."

* * *

AN aftermath of the Chevrolet publicity broadside that attended the announcement of the new line is the discovery that a New York up-state daily ran a description of the new car serially; that is, not having room enough in one issue, it announced that the story would be "continued in our next edition."

The Fort Wayne Journal-Gazette even went so far as to publish a long editorial devoted to the effect the launching of the new line will have in bringing about general business recovery.

"Chevrolet is making no faces at hard times and offering no excuses by citing the depression," the editorial says. "It has built a better and a finer car than the car which won so much distinction a year ago, and is going after business for itself and helping business recovery by such example of enterprise as will recover the country if it is generally emulated."

* * *

"I HAVEN'T any definite figures to back me up, but in my belief the dealer mortality throughout the country has not been as large this year as it was last," said the sales manager of one of the big companies. "Last year they were dropping off like flies sprinkled with Flit, but as we wind up 1931 I feel that most of those who survived 1930 are still with us.

"It has been a survival of the fittest. Forced by business necessity to adopt business efficiency, they have cut overhead to the bone, got out and worked, and as a result they have apparently weathered the storm."

Automotive Daily News

"Of, By and For the Entire Automotive Industry"

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ADVERTISING AND BUSINESS HEADQUARTERS

Harry A. Tarantous, Business Manager. 350 Hudson St., New York, N. Y.
George M. Slocum, Manager Detroit Bureau, 427 Fisher Building, Detroit, Mich. phone Trinity 2-3500; Willard R. Cotton, Western Manager, 333 North Michigan Ave., Chicago, Ill., phone Andover 2400; Metz B. Hayes, New England Manager, Little Building, Boston, Mass.; Blanchard Nichols & Coleman, American National Bank Building San Francisco, Cal.; Lincoln Building, Los Angeles, Cal.; 1037 Henry Building, Seattle Wash. Address ALL advertising and business correspondence to 350 Hudson St., New York city.

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Statistical Department (registrations and specifications), P. J. Robas, statistician. Engineering Department, A. Benson Carleton, technical editor; Merchandising Department, Charles S. Zack, editor. Art Department, John Bauerfeld, director.
Detroit Bureau, Chris Sinsabaugh, editor, 427-8 Fisher Building, Detroit, Mich. Telephone Trinity 2-3500 Contributing editor, John G. Wetmore.

Engine Replacements

IN the recent announcement by General Motors Truck of its plan for facilitating engine replacement, there seems to open a new field for service efficiency. The idea is that the manufacturing company takes in engines that have shown signs of wear and rebuilds them. Parts that have begun to wear are replaced, cylinders are rebored when necessary; in short, the power plant is rebuilt and for all practical purposes is as good as new.

When a truck user finds that his power plant needs a complete overhaul job, he turns it in to the manufacturer and in return gets a completely rebuilt engine, exactly what his own would be after a complete overhaul. Instead of having to lay up the vehicle while the rebuilding operation is completed, a rebuilt power plant is ready and the truck need not be out of commission for more than the brief time necessary to take out the worn unit and substitute the overhauled one.

Of course, lost time is a very serious factor in the field of commercial haulage. To have a truck laid up for days means a definite loss of revenue in addition to the expense of the overhaul. This efficiency in servicing is of vital importance to the truck operator.

But would not the same idea apply in the passenger car field? It is important to passenger car owners not to have their personal motor transportation systems out of commission for days at a time. Modern life is based on the use of motor transport. In many cases passenger cars are used in business. An engine overhaul would deprive the owner of his car for several days. Why not the replacement rebuilt engine, ready to slip into the chassis at the same cost as an overhaul, but at a saving of several days' time? This idea might not be beyond the resources of some dealer organizations.

Selling America Short

ALMOST any person with the slightest idea of fundamental values, who scans the stock price tables in his daily newspaper, must wonder what the world is coming to as he notes present quotations on securities sponsored by corporations that are synonyms for sound business.

It gives even a hardened stock market sinner something of a shock to see United States Steel selling at 41, Bethlehem at 20, New York Central at 27, and a long list of automotive stocks at levels that could only be justified by earning power below even the present depressed conditions. It is possible to pick out stocks today which, at present prices, should be safe to yield 10 per cent. on the investment, without any undue worry about omission of dividends.

We should not forget that behind all these securities, in the final analysis, lie the great natural resources and the consuming power of 120,000,000 Americans. We have been through a business depression. Those who would normally buy have not bought. But our farms still produce wheat, cotton, corn and thousands of other products. Our mines still give us minerals without end. Our wells still pour out petroleum to meet the demands of modern transportation. Granting the international scope of our ills, the consuming ability, the actual needs of 120,000,000 people can bring us back to prosperity without foreign aid. The foundations are sound and the present troubles are maladjustments on the surface.

The man who sells America short is selling 120,000,000 Americans with the greatest natural resources in the world behind them. That is a dangerous business.

Trade Association News

Syracuse Dealer Association Is a Busy Organization

THE latest bulletin by C. H. Hayes, secretary-manager of the Syracuse Automobile Dealers' Association, chronicles happenings in this live organization. For a start, the S. A. D. A. had a table at the annual Chamber of Commerce dinner last Tuesday evening. The following members were present:

S. K. Bresee, H. A. Dunn, C. S. Forsythe, C. H. VanDenburg, J. B. Rusterholtz, H. J. Wright, Jr., Bill Lemon, C. H. Hayes, LeRoy Casper and J. F. O'Connor.

Fred O'Neil now operates his own service station at 943 West Genesee St. His former service manager has opened a shop some place else.

Bill Witbeck, through the kindness of his heart, invited us to meet Ray, one of the famous Graham brothers, and the new Blue Streak Graham and have lunch in his party on Monday noon, December 14, at 829 West Genesee St.

Recent factory inquiries concerning the Syracuse show: Lincoln, Plymouth, Nash, Hudson-Essex.

Syracuse division of the Empire State Truck Owners' Association will meet again at Rusterholtz-Rossell showroom on Saturday night. Lew Stapley, who is the manager, will address the meeting.

Independent Garage Owners' Association of Syracuse has asked to be given a chance to explain their organization to the S. A. D. A. secretary. We may be interested in the rates they charge customers.

Hubert Wright's new building, which will give him an entrance on three streets, is coming along in good shape.

Our good old friend who wears the deanship crown, Sime Silverman, is at his office an hour or so every morning and afternoon.

George Fonda is on the job all the time with both feet. His salon showing of Packards gave him a flock of new prospects that he is not neglecting.

Carroll VanDenburg wants to know about discounts between dealers; and Jerry Rusterholtz how much everybody is charging for shop labor now.

Service Rates to Customers

1 dealer charges	$1.35	per hour
9 dealers charge	1.50	per hour
1 dealer charges	1.65	per hour
3 dealers charge	1.75	per hour
1 dealer charges	1.80	per hour
1 dealer charges	2.00	per hour
5 dealers reported flat rate only		

The one dealer who charges $1.35 per hour is doing quite a volume of business. When he reduced his rate to mechanics he passed the difference, or a portion of it, to the owners. Strictly speaking, that is perhaps the right thing to do. It all depends on whether you are getting the repair business you think you should get. Check up your own situation and find out if you are out of line with the practice of other dealers.

COMING EVENTS

JANUARY

9-16—New York City. National Automobile Chamber of Commerce. National Automobile Show
9-16—San Francisco. Annual Automobile Show, West Coast-San Francisco Motor Car Dealers Association.
9-17—Los Angeles. Annual Automobile Show of the Los Angeles Motor Car Dealers Association
11-14—Detroit, Mich. American Road Builders Association, twenty ninth convention and show.
14—New York City. Society of Automotive Engineers, annual dinner Pennsylvania Hotel.
16-18—Detroit, Mich. National Tire Dealers Association, annual meeting.
16-23—Newark, N. J. Newark Automobile Dealers' Association's annual show.
16-23—Buffalo, N. Y. Annual automobile show of Buffalo Automotive Trade Association, Inc., 174th Regiment Armory
17-23—Cincinnati. Automobile show of Cincinnati Automobile Dealers' Association
16-23—Milwaukee. Annual Automobile Show, Milwaukee Automotive Trades, Inc.
16-23—Omaha, Neb. Annual show, Omaha Auto Traders Association.
18-20—Chicago. National Wheel and Rim Association, Edgewater Beach Hotel, convention.
18-23—Portland, Me. Annual Automobile Show.
18-23—Brooklyn, N. Y. Brooklyn Motor Vehicle Dealers' Association, show.
18-23—Louisville, Ky. Louisville Automobile Dealers' Association, show. Garland Lea, manager.
18-23—Rochester, N. Y. Annual Automobile Show, Rochester Automobile Dealers Association, Inc.
23-28—Columbus, O. Annual Automobile Show, Columbus Automobile Dealers Company. Auditorium.
23-30—New York. National Motor Boat Show, Grand Central Palace.
23-30—Detroit Mich. Annual show Convention Hall
23-30—Baltimore. Annual Automobile Show.
23-30—Minneapolis. Annual Automobile Show of Minneapolis Automobile Trade Association.
23-30—Pittsburgh. Annual automobile show of Pittsburgh Automobile Dealers' Association, Motor Square Garden.
25-29—Detroit, Mich. Society of Automotive Engineers, annual meeting. Bok Cadillac Hotel.
30-Feb. 6—Cleveland. Annual Automobile Show of the Cleveland Automobile Manufacturers and Dealers Association, Public Auditorium.
30-Feb. 6—Chicago, Ill. National Automobile Chamber of Commerce. National Automobile Show
30-Feb. 6—Chicago, Ill. Automobile Salon Hotel Drake.

FEBRUARY

4-6—Springfield, Ill. Annual Automobile Show, Springfield Automobile Dealers Association, State Arsenal.
6-13—St. Paul. Annual Automobile Show St. Paul Automobile Dealers, Inc.
7-13—St. Louis. Annual Automobile Show, St. Louis Automobile Dealers Association. New Mart Building.
16-13—Trenton, N. J. Annual Automobile Show, Trenton Automobile Trade Association.
13-20—Kansas City, Mo. Annual Automobile Show. Kansas City Motor Car Dealers' Association. American Royal Building.
13-20—Los Angeles, Cal. Automobile Salon Hotel Biltmore.
17-21—Peoria, Ill. Automobile Show.
22-March 5—San Francisco, Cal. Automobile Salon. Palace Hotel.

MARCH

3- 5—Gary, Ind. Automotive Trade Association, annual show. A. H. Travers, chairman.

ILLINOIS A. T. A. TAKES ACTION ON MAJOR PROBLEMS

(Continued From Page 1)

against the automobile industry, the tone and text of the resolutions adopted giving plenty of evidence on that score.

Officers elected for the coming twelve months were as follows: Herbert G. Wangelin, Belleville, president; Leonard Putnam, Ottawa, first vice-president; W. E. Butler, Chicago, second vice-president; William W. Yates, Bloomington, treasurer; H. A. Wehmeier and James Levy, Chicago; L. E. Graham, Peoria; Roy Herrington, Rockford, and William McKenzie, Springfield, directors for three years.

Entertainment was furnished and the program handled by the Rockford dealers, winding up with a banquet, at which C. A. Vane, general manager of the National Automobile Dealers' Association, and Prof. Charles M. Thompson, dean of the college of commerce, University of Illinois, were the speakers. Mr. Vane in his talk discussed dealer contracts. C. C. Hanch, general manager of the National Association of Finance Companies, presided as toastmaster, prefaced his introduction of the speakers with a brief discourse on "Barnyard Economics."

One of the principal addresses at the convention was delivered by Frank T. Sheets, chief highway engineer of Illinois, who spoke on "Road Systems and the Gasoline Tax." A. B. Wyrick explained the octane system of gasoline classification. A session on service proved of special interest to the members, with President-Elect Wangelin and C. H. Roberts of Community Motors, Inc., Chicago, leading the discussion.

Key Cities Sales Show Gains for December

(Continued from Page 1)

Antonio, Tex., Auto Trades Association we find that new and used car sales for the first half of December showed a marked improvement. The sales record in San Antonio up to December 15 was 134 passenger cars, 34 trucks and 266 used units, which compares with 84 passenger cars and 19 trucks sold during the first half of November this year. In the first half of December, 1930, sales were 329 pasenger cars, 34 trucks and 411 used units. On December 15 San Antonio dealers sold 24 new cars, making this the best single day in many months. The new models are being well received in San Antonio and general business conditions in this territory show marked improvement.

The Pacific Coast still shows the effect of the depression. In Los Angeles sales up to December 9, 1931, totaled 298 vehicle units, which compares with 588 units in the same period of December, 1930.

San Francisco shows a gain over November, which is encouraging, anyway. Up to December 10, 1931, total sales were 188 vehicle units. Sales up to November 9, this year were 167 units.

Taking these city reports by and large, the showing is not at all bad. The fact that a number if cities showed increased sales over November is definitely encouraging. Also the general reports that the new models are being well received is a satisfactory condition.

PAUL W. SEILER NAMED TO ATTEND ROAD SHOW

Pontiac, Dec. 17.—Paul W. Seiler, president and general manager of the General Motors Truck Company has been appointed one of a committee of four from Pontiac to attend the American Road Builders convention in Detroit in January. The appointment was made by Gov. Wilber M. Brucker.

NEW YORK & CHICAGO
Show Issues
Automotive Daily News
PUBLICATION DATES

NEW YORK	CHICAGO
Saturday, January 9	Saturday, January 30
Monday, January 11	Monday, February 1
Tuesday, January 12	Tuesday, February 2
Wednesday, January 13	Wednesday, February 3
Thursday, January 14	Thursday, February 4
Friday, January 15	Friday, February 5

Write for literature giving details of extra distributions at hotels, at the shows, dealer meetings, conventions, etc., also extra mailings to dealers, jobbers, fleet owners, etc.

Closing Dates: Two days preceding dates shown. On advance notice giving exact size of space copy will be accepted up to 9 a. m. one day preceding.

BISH NAMED DETROIT CHRYSLER MANAGER

Detroit, Dec. 17.—The appointment of N. R. Bish as district manager of the Detroit district of Chrysler Sales Corporation is announced today by J. W. Frazer, general sales manager.

Bish, who is widely known in automotive circles, comes to Detroit from Boston where he served as manager of that district. Bish is succeeded in Boston by Fred Cooper, formerly director of distribution and more recently manager of the Detroit district for Chrysler Sales Corporation. The appointments are effective immediately.

ENTERING OUR 23RD YEAR

Twenty-two years' experience in the production of master motor trucks is built into every BROCKWAY-INDIANA truck.

Unequalled value for your truck dollar—value that will prove itself in years of dependable service. Investigate Brockway-Indiana line—now!

BROCKWAY MOTOR TRUCK CORPORATION

General Offices:
Cortland - - - - New York

Adapts It a New Way

STOP

At our used car showroom. The overwhelming popularity of the new CHEVROLET makes it necessary that we clear our used car stock. Prices are at the lowest level.

LOOK

At the wide assortment of models. Coaches, Sedans, Coupes and Roadsters, 1928, 1929, 1930 and 1931. Choice of colors.

LISTEN

To the reconditioned motors, the quiet rear, and transmission, the attractive terms.

YOUNG CHEVROLET

White Horse Pike and Capitol Avenue, Oaklyn, N. J.
OPEN EVENINGS PHONE COLLINGSWOOD 2130

YOUNG CHEVROLET COMPANY, Oaklyn, N. J., uses "Stop—Look—Listen" in a new method in the above advertisement

J. J. DE JARNETTE RETIRES

Los Angeles, Dec. 17.—J. J. De Jarnette, vice-president and director of the Thompson-De Jarnette Company, southern California Nash distributor, has retired from the company. A. G. Stuebing, formerly treasurer, succeeds Thompson as vice-president, while Andrew Thompson is the new treasurer.

IN NEW QUARTERS

Tulsa, Okla., Dec. 17.—American Motors, Inc., Reo distributor for eastern Oklahoma, has moved from 223 North Main St., to 705 South Boulder Ave. The showrooms have been remodeled and redecorated, and new equipment has been added, according to C. J. Cantrall, president of the firm.

DEALER EXPANSION

Ottumwa, Ia., Dec. 17.—The Reeves Auto Company, 207-209 West 2d St., John Harter and L. W. Smallwood, owners, has announced the purchase of the Ottumwa Duco Company, 825 West Main St. K. C. Henderson will manage at the Reeves service shop.

CHEVROLET DEALER AIDS

Atlanta, Ga., Dec. 17.—John Smith Company, Chevrolet dealer, has contributed six used cars to a fund being sponsored by a local newspaper for the city's poor. The automobiles will be auctioned to the highest bidder, and the funds will go to relieve suffering.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

MOURY TO DISTRIBUTE NEW CHEVROLET LINE

Jefferson, O., Dec. 17 (UTPS).—The Chevrolet Motor Company announces that R. H. Moury will distribute that line in Ashtabula county. Mr. Moury has been representing the Oldsmobile line for the past four years and will continue to handle it, together with Chevrolet. He occupies a new sales room and service station recently erected on Wall Street.

NICHOLS JOINS EMARK AS JOBBER MERCHANDISER

Newark, N. J., Dec. 17.—H. B. MacLaughlin, sales manager of the Emark Battery Corporation, announces the appointment of S. E. Nichols in a sales capacity with the company. Mr. Nichols was recently general manager for the George W. Nock Company of Philadelphia, prior to which for many years he was in a similar capacity for the Elin Auto Supply Company of Newark. Mr. Nichols is a former president of the Middle Atlantic Jobber Association.

CARROLL-THOMSON NAMED COLUMBUS DODGE DEALER

Columbus, O., Dec. 17.—Appointment of the Carroll-Thomson Company, 539-563 East Long St., one of the largest and best known distributing organizations in central Ohio, as Dodge and Plymouth dealers for Columbus and surrounding territory, was announced today by A. VanDerZee, general sales manager of the Dodge Brothers Corporation.

NEW WILLYS DEALERSHIP NAMED IN COLUMBUS, O.

Columbus, O., Dec. 17.—Willys Motors, Inc., headed by William Dooley and H. R. Trealeven, has acquired the franchise for distribution of Willys-Knight in this territory. The new dealership, one of the largest automobile sales organizations in the state, is located at 525 East Broad St.

WISCONSIN AXLES

Quiet, staunch in the steady performance of their job; to haul, to stay out of the repair shop, to perform at lowest possible cost.

WISCONSIN AXLE CO.
Oshkosh Wisconsin

Cumulative New Commercial Car Registration Statistics, November, 1931

Returns for today: Idaho, Missouri, North Carolina, Rhode Island, South Dakota, Virginia and Washington.

In this table 22 states and the District of Columbia.

States	Autocar	Brockway-Indiana	Chevrolet	Diamond-T	Dodge	Federal	Ford	G. M. C.	International	La France-Republic	Mack	Pierce-Arrow	Reo	Sterling	Stewart	Studebaker	Whippet	White	Willys	Willys-Knight	Miscellaneous	Totals	States
Arkansas		1	51		1		43	1	9										1			107	Arkansas
Connecticut	3	1	96	4	28	16	129	24	24	5	14		20	1	4	7		7	3		10	396	Conn.
Delaware	2		9		1		15	1					1								2	31	Delaware
Florida			136		3		125	2	7				7					1	2		2	285	Florida
Idaho			25		5		31		1				2						1			65	Idaho
Illinois	4		171	22	16	4	197	41	43		1		9	3	1			3	3	1	17	536	Illinois
Indiana		4	67	3	8		80	9	12				2		3	5		2	5		3	203	Indiana
Maryland	6	2	75	5	14	3	115	8	15	2	10		9			2		3	1		5	275	Maryland
Minnesota			135	9	13	2	135	5	38	2	2		13		1	7		4	6		3	375	Minn.
Missouri			171	5	22	10	205	17	34				6			6		2	2		18	498	Missouri
Montana			20		1		28	1	3				4			1	1	1				60	Montana
North Caro.	1		142	6	10	1	166	20	9		2		3			1			2		109	472	Nor. Car.
North Dak.			6		3		19	1	8										2			39	N. Dak.
Ohio	6	2	159	2	34	1	257	35	58		3		24	1	2	11		20	2		19	636	Ohio
Rhode Island	2		23	2	7	3	65	6	6	1	1		10		1	2					1	130	Rho. Isl.
S. Carolina			72		8		53	5	5		1		1			3					2	150	S. Car.
S. Dakota			27	2	6		24		8							2						69	S. Dakota
Utah			24		1		30	5	7				2			2						71	Utah
Virginia	1	1	158		17	5	117	16	10	3	2		8					2			24	364	Virginia
Washington			19		4		36	3	9				1			5		2	1		6	86	Wash.
W. Virginia			45	4	9		47	8	12				7			5			5		5	147	West Va.
Wisconsin			108	9	11	3	101	8	16		1		10	1		4			6		12	290	Wis.
Dist. of Col.	17	1	39	3	5	1	80	22	20				1		1	2		7			42	241	D. of Col.
Totals	42	12	1778	76	227	49	2098	238	354	13	37		140	6	13	65	1	54	42	1	280	5526	Totals
Arkansas, 30			24		3		40	1	6									1				75	Ark., '30
Conn., 1930	2	5	67	12	35	6	180	7	21		17		10	1	4	9		3	3		14	396	Ct., 1930
Delaware, '30	1		10	3			34	2	3		2		1			2	1				1	60	Del., '30
Florida, 1930		1	88		7	5	304	5	11				1					2	1	2		427	Fla., 1930
Idaho, 1930			43		5		100	1	14				2					1	1	1	2	170	Idaho, '30
Illinois, 1930	4		240	34	61	13	385	5	44		7		4	2				2	4		28	933	Ill., 1930
Ind., 1930	1	5	66	1	13		131	4	15							5	2	1	1		8	253	Ind., 1930
Maryland, '30	3	5	69	1	18	2	182	5	20	3	7		4			2		12			6	339	Md., 1930
Minnesota, '30		1	127	6	27	2	261	10	47			1	5			11	4	1	3		9	515	Minn. '30
Missouri		8	228	8	33	3	367	13	30		11		4	3	2	5	1	3			10	729	Mo., 1930
Montana, '30			13		5	1	43		10				1				1	1	3		4	82	Mont., '30
North Caro.			121		21		172	5	4		1		1					2	1		6	334	N. C., '30
N. Dak., 1930			13		3		20		13				1			1					1	52	N. D., '30
Ohio, 1930	8	5	257	6	46	1	545	22	60		4		7	3	5	20	8	23	1	1	38	1060	Ohio, '30
Rhode Island	2		21	2	8	4	76	4	3		1		5			2					3	131	R. I., '30
S. Car., 1930			107		6		84	5	6				1					1			3	213	S. C., '30
S. Dakota			18	3	4		32	1	20													78	S. D., '30
Utah, 1930			32		13		87	2	11				3			1					1	150	Utah, '30
Virginia	5	1	151	1	22	1	209	12	17	6	2		4			2		6	1		2	442	Va., 1930
Washington			26		3		83	1	7				1			2		2	1		1	127	Wash., '30
West Va., '30			60	2	22		125	3	15	2	1		3			2	1	2	6		3	247	W. V., '30
Wis., 1930			164	4	23	5	310	8	35		1		5	2		7	3	1	2		9	579	Wis., '30
D. of Col., '30	7		28	5	4		97	5	5		2		2					4			4	163	D. C., '30
Totals	83	31	1973	88	382	43	3867	121	417	11	56	1	65	11	11	71	21	68	28	4	153	7455	Totals

Major Specifications and Mechanical Details of 1931 Commercial Cars

Make and Model	Capacity—Tons or Lbs.	Chassis Price	Engine	Valve Arr'g'm't	No. of Cyls.	Bore and Stroke	Piston Disp.	Tax H. P.	Max. Brake H. P. and Peak R. P. M.	Type Camshaft Drive	Radiator Make	Clutch Make	Universals Make	Steering Gear Make	Carburetor Make	Fuel Feed Type	Make Electr'l System	Transmission	No. Spds. For.	Rear Axle Make	Type Final Drive	Final Gear Reduction	Type Service Brakes	Area Service Brakes	Standard Wheel Base	Chassis Wgt.	Standard Tire Sizes Front	Rear
*Am. La France Chief	2½	3650	Own	L	6	3¾x5	331.0	33.7	65@2100	G	G & O	Borg	Spic	Ross	Str	Vac	DR	Own	4	Tim	Wo	31.2	B4IMV	—	156	6200	32x6	32x6D
Am. La France Big Chief	6	6725	Own	L	6	4½x6	411.0	40.8	85@1800	—	—	Own	—	Zen		Vac	DR	Own	4	Own	2 R	32.8	W4IA	—	226	10600	40x8S	40x8DS
Austin	400	475	Own	L	4	2.2x3	45.6	7.8	13@3000	G	Hex	Rock	Spic	Own	Til	Gra	Aut	W-G	3	Sal	Sp	5.25	O4M	76.5	75	1210	3.75x18	3.75x18
Autocar A	1½-2	3200	Own	L	6	4 x4¾	358.0	38.4	82@2400	G	Per	Long	Spic	Ross	Str	Vac	DR	Own	4	Own	Sp	27.9	LO4ID	460	150	5300	34x7	34x7
Autocar D	2-2½	3500	Own	L	6	4 x4¾	358.0	38.4	82@2400	G	Per	Long	Spic	Ross	Str	Vac	DR	Own	4	Own	2 R	33.5	LO4ID	460	150	5600	34x7	34x7D
†Autocar SH	2½-3	4300	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2 R	44.0	O2IM	328	114	6770	34x7	34x7D
Autocar SCH	2½-3	4100	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	4	Own	2 R	44.0	O2IM	328	157	6900	34x7	34x7D
†Autocar H	3	4600	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2 R	48.6	O2IM	328	114	6770	34x7	40x8D
†Autocar HS	3½	4800	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2 R	54.3	O2IM	516	114	7660	40x8	40x8D
†Autocar SHS	3-3½	4800	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2 R	54.3	O2IM	516	114	8100	40x8	40x8D
Autocar SCHS	3-3½	4600	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2 R	54.3	O2IM	516	157	8180	40x8	36x8D
Autocar N	3-3½	5350	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2 R	54.3	O2IM	516	157	7990	36x8	36x8D
Autocar TEA	3½-5	6100	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	4	Own	2 R	54.3	O2IM	574	174	8900	36x8	38x9D
Autocar TFA	3½-5	5500	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	4	Own	2 R	41.2	OL4IH	602	192	9300	38x9	42x9D
Autocar C	7½	6800	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	12	Own	2 R	101 1	LO4ID	602	192	9500	42x9	40x8DS
Autocar F	10	9000	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	12	Own	2 R	101 3	LO4ID	516	172	11000	36x7S	36x8D
*Autocar G																												
Brockway 80	*8000	1295	Con	L	6	3⅜x4	214.7	27.3	61@3000	C	G & O	Borg	Spic	Ross	Zen	Vac	DR	Own	4	Own	Sp	51.7	LT4DV	674	173	11000	36x7S	36x8D
Brockway 90	9000	1525	Con	L	6	3⅜x4⅝	248.2	27.3	65@2700	C	G & O	Borg	Spic	Ross	Zen	Vac	DR	Br-L	7	Tim	Wo	94.0	T6IA	720	171	13000	36x8	
Brockway 120	12000	1990	Con	H	6	4 x4⅛	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Zen	Vac	DR	Br-L	7	Tim	Wo	100 0	T6IA					
Brockway 130	14000	2495	Con	H	6	4 x4⅛	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Zen													
Brockway 140	17000	2953	Con	H	6	4½x4¾	380.9	40.8	100@2400	C	G & O	Br-L	Spic	Ross	Zen													
Brockway 141	17000	3160	Con	H	6	4¾x4¾	427.5	45.9	89@2400	C	G & O	——	Spic	Ross	Zen													
Brockway 170	17500	3660	Con	H	6	4½x4¾	380.9	40.8	100@2400	C	G & O	Br-L	Spic	Ross	Zen													
Brockway 175	19500	3820	Con	H	6	4¾x4¾	427.5	45.9	100@2400	C	G & O	Br-L	Spic	Ross	Zen													
Brockway 195	22000	4560	Con	H	6	4¾x4¾	427.5	45.9	100@2400	C	Long	Br-L	Spic	Ross	Str													
Brockway 220	25000	5950	Con	H	6	4¾x5¾	611.4	54.1	116@1800	C	Long	Br-L	Spic	Ross	Str													
Brockway 250	30000	7250	Con	L	6	4¾x5¾	611.4	54.1	116@1800	C	Long	Br-L	Spic	Ross	Str													
Brockway 290	40000	9700	Con	L	6	4¾x5¾	611.4	54.1	116@1800	C																		
*Brockway 640																												
Chevrolet	½	355	Own	H	6	3⅛x3¾	194.0	26.3	50@2600	G	Har	Own	Own	Own	Car	P	DR	Own	3	Own	Sp	13.6	O4IM	101	109	*1880	19x4.75	19x4.75
Chevrolet	1½	590	Own	H	6	3⅛x3¾	194.0	26.3	50@2600	G	Har	Own	Own	Own	Car	P	DR	Own	4	Own	Sp	33.4	O4IM	170	157	3015	30x5	30x5D
Chevrolet	1½	520	Own	H	6	3⅛x3¾	194.0	26.3	50@2600	G	Har	Own	Own	Own	Car	P	DR	Own	4	Own	Sp	33.4	——	—	131	2700	30x5	32x6
Commerce Series S 11	1	1600	Bud	L	6	3⅜x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Col	Sp	25.5	L4IH	297	142	3900	30x5P	30x5P
Commerce Series S 11	1½	1900	Bud	L	6	3⅜x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Sp	29.2	L4IH	297	162	4300	30x5P	30x5DP
Commerce Series 40	2	2990	Bud	L	6	3¾x5	331.0	33.7	64@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	4	Tim	Wo	34.8	L4IH	394	168	4700	34x5P	34x5DP
Commerce Series S 11	2	2030	Bud	L	6	3¾x5	331.0	33.7	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Sp	29.2	L4IH	297	162	4500	32x8P	32x6D
Commerce Series 40	2½	3240	Bud	L	6	3¾x5	331.0	33.7	64@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	4	Tim	Wo	34.8	L4IH	394	168	4900	36x6	36x6D
Commerce Series 40	2½	3240	Bud	L	6	3¾x5	331.0	33.7	64@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Tim	Wo	34.8	L4IH	394	168	5100	36x6P	36x6D
Commerce Series 60	3	4580	Bud	L	6	4½x5½	410.9	40.8	83@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Tim	Wo	34 8	L4IH	584	175	7000	36x6P	38x7D
Commerce Series 60	3	4580	Bud	L	6	4½x5½	410.9	40.8	83@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Tim	Wo	63.0	L4IH	584	175	7100	36x6P	36x6S
Commerce Series 80	3½	4680	Bud	L	6	4½x5½	411.0	40.8	83@2100	G	Long	Own	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	63.0	——	——	175	8200	36x6S	36x14S
Commerce Series 80	4	5250	Bud	L	6	4½x5½	411.0	40.8	83@2100	G	Long	Own	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	98.2	——	——	175	8400	36x6S	40x14S
Commerce Series 100	5	5830	Bud	L	6	4½x5½	411.0	40.8	83@2100	G	Long	Own	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	98.2	——	——	175	9600	36x6S	40x14S
Day Elder 60	1	895	Con	L	6	3⅜x4	214.7	27.3	61@3000	C	G & O	Borg	Spic	Ross	Zen	P	DR	W-G	4	Tim	Sp	36.3	L4IH	793	175	9500	36x8	40x10DP
Day Elder 75	1½	945	Con	L	6	3⅜x4	214.7	27.3	61@3000	C	B & O	Borg	Spic	Ross	Zen	P	DR	W-G	4	Tim	Sp	36.3	L4IH	628	165	13000	40x10P	
Day Elder 85	1½-2	1395	Con	L	6	3⅜x4⅝	248.3	27.3	65@2700	C	Per	Borg	Spic	Ross	Zen	P	DR	W-G	4	Tim	Sp	42.3	L4IH	380	135	*3300	20x6.00B	20x6.50B
Day Elder 95	2	1825	Con	L	6	3⅜x4⅝	248.3	27.3	65@2700	C	Per	Br-L	Spic	Ross	Zen	P	DR	Br-L	4	Tim	Sp	44.9	L4IH	380	135	3400	20x6.00B	20x6.00DB
Day Elder 110	2½	2225	Con	H	6	4 x4½	339.3	38.4	73@2400	C	Per	Br-L	Spic	Ross	Zen	P	DR	Br-L	4	Tim	Sp	40.7	L4IH	452	156	3850	20x6.00B	20x6.50DB
Day Elder 130	3	2775	Con	H	6	4 x4½	339.3	38.4	82@2400	C	Per	Br-L	Spic	Ross	Zen	P	DR	Br-L	4	Tim	Sp	44.9	L4IH	578	157	4880	20x7.00B	20x7.00DB
Day Elder 160	4	3295	Con	H	6	4¾x4¾	427.5	45.9	100@2600	C	Per	Br-L	Spic	Ross	Zen	P	DR	Br-L	4	Tim	Sp	40.7	L4IH	659	156	6600	20x7.50B	20x7.50DB
Day Elder 200	5	4295	Con	H	6	4¾x4¾	427.5	45.9	100@2600	C	Per	Br-L	Spic	Ross	Zen	P	DR	Br-L	4	Tim	Wo	36.1	L4IHV	768	156	6800	20x7.50B	20x9.00DB
Day Elder 240	8	5295	Con	H	6	4¾x4¾	427.5	45.9	100@2600	C	Per	Br-L	Spic	Ross	Zen	P	DR	Br-L	4	Tim	Wo	43.5	L4IHV	921	162	7600	20x9.00B	20x9.00DB
*Day Elder 285	10	6395	Con	L	6	4¾x5¾	611.4	54.2	127@2300	G	Per	Br-L	Blo	Ross	Zen	Vac	DR	Br-L	7	Tim	Wo	50.8	L6IHV	1192	164	9500	38x9P	38x9DP
*Day Elder 345	12	7495	Con	L	6	4¾x5¾	611.4	54.2	127@2300	G	Per	Br-L	Blo	Ross	Zen	Vac	DR	Br-L	7	Tim	Wo	71.2	L6IHV	1192	164	12000	20x8.25DB	20x8.25DB
*Day Elder 402											Per	Br-L	Blo	Ross	Zen	Vac	DR	Br-L	7	Tim	Wo	79.9	W6IA	1192	164	12500	20x9.00DB	20x9.00DB
											Per	Br-L	Blo	Ross	Zen	F	DR	Br-L	7	Tim	Wo	84.6	W6IA	1192	164	14800	20x9.75DB	20x9.75DB
Diamond T 216 B	1½	795	Her	L	6	3⅜x4¼	228.0	27.3	56@2400	G	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	4	Cla	Sp	——	L4IH	252	135½	3260	20x6.50B	20x6.50B
Diamond T 316	2	1195	Her	L	6	3⅜x4¼	263.0	29.4	67@2400	G	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	4	Cla	Sp	——	L4IH	350	155	4400	20x6.50B	20x6.50DB
Diamond T 303 F	2-2½	1695	Her	L	6	3¾x4½	298.0	33.7	74@2400	G	G & O	Borg	Spic	Ross	Zen	P	Aut	Cov	4	Cla	Sp	——	L4IHV	350	159¾	5000	20x7.00B	20x7.00DB
Diamond T 551 B	2½-3	2250	Her	L	6	4 x4½	339.0	38.4	74@2400	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	4	Tim	Sp	——	L4IHV	408	168	5600	20x7.50B	20x7.50DB
Diamond T 303 F B	2-2½	2375	Her	L	6	4 x4½	339.0	38.4	74@2400	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	4	Cla	Sp	——	L4IHV	408	169	6100	20x7.50	20x8.25DB
Diamond T 504 A	3	2650	Her	L	6	4 x4½	339.0	38.4	74@2400	G	G & O	Cov	Spic	Ross	Zen	P	L-N	Cov	4	Wis	2 R	——	L4IHV	408	184	6400	20x8.25B	20x8.25DB
Diamond T 504 B	3	2950	Her	L	6	4¼x4½	383.0	43.3	85@2200	G	G & O	Cov	Spic	Ross	Zen	P	L-N	Cov	5	Wis	2 R	——	L4IHV	499	169	7500	20x9.00B	20x9.00DB
Diamond T 506 A	3-4	3300	Her	L	6	4½x5¼	501.0	51.4	114@2200	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	5	Wis	2 R	——	L4IHV	499	187½	7500	20x9.00B	22x9.75DB
Diamond T 603	3-4	3400	Her	L	6	4⅝x5¼	529.0	45.9	94@2200	G	G & O	Cov	Spic	Ross	Zen	P	L-N	Cov	5	Wis	2 R	——	L4IHV	552	178	8300	22x9.75B	36x8P
Diamond T 606 B	4-5	4650	Her	L	6	4⅝x4¾	428.4	45.9	100@2200	G	G & O	Cov	Spic Blo	Ross	Zen	P	Aut	Cov	5	Wis	2 R	——	W4I	571	189½	8300	36x8P	34x7DP
Diamond T 750	4	4140	Her	L	6	4½x5¼	501.0	48.6	104@2400	G	G & O	Cov	Spic Blo	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	——	L6IHV	238	190	11000	34x7P	36x8DP
*Diamond T 801	6	5600	Her	L	6	4⅝x5¼	529.0	51.3	127@2000	G	G & O	Cov	Spic Blo	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	——	W41A	238	190	11700	36x8P	36x8D
*Diamond T 1201	8	6400	Her	L	6	5 x5¾	677.4	60.0	127@2000	G	G & O	Br-L	Spic-Blo	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	——	W41A	238	194	12500	36x8P	
*Diamond T 1602	8	7500	Wak	L	6	5 x5¾	677.4	60.0	127@2000	G																		
*Diamond T 1603																												
Dodge Bros. UF 10	½	375	Own	L	4	3⅝x4¾	196.0	21.0	48@2800	G	Fed	Borg	Own	W-G	Car	P	DR	Own	3	Own	Sp	13.9	O4IH	121	109	1925	19x5.00	19x5.00
Dodge Bros. UF 10	½	445	Own	L	6	3¼x4¼	211.5	25.3	66@3200	C	Fed	Borg	Un	W-G	Car	P	DR	Own	3	Own	Sp	13.9	O4IH	121	109	1975	19x5.25	19x5.25
Dodge Bros. F 10	½	490	Own	L	4	3⅝x4¾	196.0	21.0	63@3200	C	Fed	Borg	Spic	Han	Zen	Vac	NE	Own	3	Own	Sp	19.2	O4IH	189	124	2260	20x6.00	20x6.00
Dodge Bros. U 1	¾	595	Own	L	6	3⅝x4¾	196.0	21.0	63@3200	C	Fed	Borg	Spic	Han	Car	Vac	NE	Own	4	Own	Sp	36.1	O4IH	189	124	2360	20x6.00	32x6
Dodge Bros. DA 1	¾	495	Own	L	4	3⅜x3⅞	208.0	27.3	45@2800	C	Fed	Borg	Spic	Han	Zen	Vac	NE	Own	4	Own	Sp	37.1	O4IH	206	133	2590	20x6.00	32x6
Dodge Bros. U 1	1	595	Own	L	6	3⅝x4¾	196.0	21.0	48@2800	G	Fed	Borg	Spic	Han	Car	Vac	NE	Own	4	Own	Sp	37.1	O4IH	206	133	2690	20x6.00	32x6
Dodge Bros. DA 1	1	595	Own	L	4	3⅜x3⅞	208.0	27.3	45@2800	C	Fed	Borg	Cle	W-G	Car	P	DR	Own	4	Own	Sp	37.1	O4IH	206	136	2581	20x6.00	32x6
Dodge Bros. UF 30	1½	670	Own	L	6	3¼x4¼	211.5	25.3	66@3200	C	Fed	Borg	Cle	W-G	Car	P	DR	Own	4	Own	Sp	37.1	O4IH	187	136	2757	20x6.00	32x6
Dodge Bros. UF 31	1½	695	Own	L	6	3¼x4¼	211.5	25.3	63@3200	C	Fed	Borg	Cle	W-G	Car	P	DR	Own	4	Own	Sp	37.1	O4IH	229	165	2631	20x6.00	
Dodge Bros. F 30	1½	770	Own	L	6	3⅜x3⅞	208.0	27.3	63@3200	C	Fed	Borg	Cle	Han	Zen	P	DR	Own	4	Own	Sp	43.7	O4IH	229	165	2807	20x6.00	20x6.00D
Dodge Bros. F 31	1½	1425	Own	L	6	3⅜x3⅞	208.0	27.3	63@3200	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	46.3	O4IH	382	165	4520	32x6	32x6D
Dodge Bros. F 35	1½	1485	Own	L	6	3⅝x5	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	Vac	NE	Own	4	Own	Sp	46.3	O4IH	382	185	4715	32x6	32x6D
Dodge Bros. F 36	2	1995	Own	L	6	3⅝x5	309.6	31.5	78@3000	G	Long	Borg	Un	Han	Zen	Vac	NE	Own	4	Own	Sp	46.3	O4IH	416	146	5543	32x6	32x6D
*Dodge Bros. F 40	2	2085	Own	L	6	3⅜x4½	241.0	27.3	78@3000	G	Long	Borg	Un	Han	Zen	Vac	NE	Own	4	Own	2 R	56.6	O4IH	416	170	5789	32x6	32x6D
*Dodge Bros. F 41	3	1515	Own	L	6	3⅜x4½	241.0	27.3	78@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	48.8	O4IH	416	195	5901	32x6	
Dodge Bros.	3	1565	Own	L	6	3⅜x4½	241.0	27.3	78@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	48.8	O4IH					
Dodge Bros.	3	1615	Own	L	6	3⅜x5	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL													
Dodge Bros.	3	2645	Own	L	6	3⅜x5	309.6	31.5	96@3000	G																		
Dodge Bros. F 60	3	2575	Own	L	6	3⅜x5	309.6	31.5	96@3000	G																		
*Dodge Bros. F 61	3	2695	Own	L	6	3⅜x5																						
*Dodge Bros. F 62																												
Essex Com.	¾	445	Own	L	6	2¾x4½	163.0	18.2	55@3300	C	Har	Own	Spic	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L4IH	377	131	*3280	20x6.00	32x6
Federal D 2	*1½	795	Con	L	4	3⅞x4¼	200.5	24.0	48@2500	C	Long	Borg	Spic	Gem	Zen	P	DR	W-G	4	Cla	Sp	36.3	L4IH	377	132	3330	20x6.00	32x6
Federal E 2	*1½	895	Con	L	6	3⅜x4⅜	215.0	27.3	60@2600	C	Long	Borg	Spic	Gem	Zen	P	DR	Own	4	Tim	Sp	29 2	L4IH	414	132	3810	30x5	30x5D
Federal F 7	*1¾	1525	Con	L	6	3⅜x4⅝	248.0	27.3	64@2500	C	Long	Borg	Pet	Ross	Zen	P	DR	Own	4	Tim	Sp	38.5	L4IH	450	151	4635	32x6	32x6D
Federal A 6	*2	1855	Con	L	6	3⅜x4⅝	248.0	27.3	64@2500	C	Long	Borg	Pet	Gem	Zen	Vac	DR	Own	4	Tim	Sp	47.1	L4IHV	659	151	5185	32x6	32x6D
Federal A 6 T	*2½	2185	Con	L	6	3⅜x4⅝	248.0	27.3	48@2500	C	Long	Borg	Pet	Gem	Zen	Vac	DR	Own	4	Tim	Wo	52.8	L4IHV	659	151	5185	32x6	32x6
Federal A 6 T W	*2½	2360	Con	L	6	3⅞x4¼	200.5	24.0	60@2600	C	Long	Borg	Pet	Ross	Zen	Vac	DR	Own	4	Tim	Wo	44.0	L4IHV	659	140	3980	20x6.00	32x6
*Federal D 2 S W	*2½-3	1050	Con	L	6	3⅜x4	215.0	27.3	48@2500	C	Long	Borg	Pet	Ross	Zen	Vac	DR	Own	4	Tim	Wo	64.6	L4IHV	566	145	4030	20x6.00	32x6
*Federal E 2 S W	*2½-3	1150	Con	L	6	3⅞x4¼	200.5	24.0	60@2600	C	Long	Borg	Pet	Ross	Zen	P	DR	W-G	4	Cla	Sp	40.8	L6IH	566	140	4235	20x6.00	32x6
*Federal D 2 D	*2½-3	1350	Con	L	6	3⅜x4	215.0	27.3	75@2200	C	Long	Borg	Pet	Ross	Str	P	DR	W-G	4	Cla	Sp	40.8	L6IH	566	140	4310	20x6.00	34x7D
*Federal E 2 D	*2½-3	1450	Con	H	6	4 x4⅛	311.0	38.4	75@2200	C	Long	Borg	Pet	Ross	Str	P	DR	W-G	4	Cla	Sp	40.8	L6IH	566	165	6645	34x7	34x7D
Federal D 2 D	*2½-3	2740	Con	H	6	4 x4⅛	311.0	38.4	75@2200	C	Long	Borg	Pet	Gem	Zen	P	DR	W-G	4	Cla	Sp	44.5	L4IHV	659	165	6645	34x7	34x7D
Federal E 2 D	*2½-3	2915	Con	H	6	4 x4⅛	311.0	38.4	85@2200	C	Long	Borg	Pet	Gem	Zen	P	DR	Own	4	Tim	Wo	44.0	L4IHV	659	165	6645	34x7	34x7D
Federal T 10 B	*2½-3	2915	Con	H	6	4 x4⅛	339.0	38.4	85@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Own	4	Tim	2 R	45.6	L4IHV	676	165	7315	34x7	34x7D
Federal T 10 W	*2½-3	2915	Con	H	6	4 x4⅛	339.0	38.4	85@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Own	4	Tim	Wo	64.6	L4IHV	767	165	7315	34x7	34x7D
Federal T 10 D R	*3-3½	3360	Con	H	6	4 x4½	248.0	27.3	64@2500	C	Long	Borg	Pet	Ross	Zen	P	DR	Br-L	7	Tim	2 R	69.6	L6IHV	675	164	5620	32x6	32x6D
Federal U 6	*3-3½	3860	Con	L	6	3⅜x4⅝	381.0	40.8	90@2200	C	Long	Borg	Pet	Ross	Str	P	DR	Br-L	7	Tim	Sp	38.5	L4IHV	894	192	8460	36x8	36x8D
Federal U 6 D R	*3-3½	2360	Con	H	6	4½x4¾	381.0	40.8	90@2200	C	Long	Borg	Pet	Ross	Zen	Vac	DR	Own	4	Cla	Wo	72.2	L4IHV	894	192	8460	36x8	36x8D
*Federal A 6 S W	*4	4735	Con	H	6	4½x4¾	381.0	40.8	90@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Br-L	7	Tim	2 R	80.6	T4IA	921	192	8980	36x8	36x8D
Federal 4 C 6 A	*4-5	4735	Con	H	6	4½x4¾	381.0	40.8	90@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Br-L	7	Tim	Wo	72.2	T4IA	921	192	8980	36x8	40x14S
Federal 4 C 6 A D R	*4-5	4960	Con	H	6	4½x4¾	381.0	45.9	90@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Br-L	7	Tim	2 R	80.6	T4IA	421	192	†9750	36x6S	40x14S
Federal 4 C 6 A B	*4-5	4960	Con	H	6	5 x6	471.0	40.0	61@1350	C	Long	Borg	Pet	Ross	Zen	P	DR	Br-L	7	Tim	2 R	80.6	T2IMV	603	162	†9750	36x6S	40x8D
Federal 4 C 6 A B D R	*4-5	5085	Con	L	4	5 x6	471.0	40.0	61@1350	C	Long	Borg	Pet	Ross	Zen	P	DR	Br-L	7	Tim	Wo	110.9	T2IMV	603	162	10625	40x8	40x8D
Federal X 8	*7½	5085	Con	L	4	4¾x4¾	427.5	45.9	100@2200	C	Long	Borg	Pet	Ross	Zen	Vac	AB	Br-L	7	Tim	2 R	106.0	T2IMV	462	162	10625	40x8	
Federal X 8 D R	*7½	5810	Con	H	6	4¾x4¾	427.5	45.9	100@2200	C	Long	Borg	Pet	Gem	Zen	Vac	AB	Br-L	7	Tim	Wo	110.9	T2IMV	462	162	10625	40x8	
Federal X 8 R	*7½	5810	Con	H	6	4¾x4¾	427.5	45.9	100@2200	C	Long	Borg	Pet	Gem	Zen	P	DR	Br-L	7	Tim	2 R	106.0	T2IMV	462	162	10625	40x8	
Federal X 8 R D R	*7½										Long	Borg	Pet	Gem	Zen	P	DR	Br-L	7	Tim	2 R	106.0	T2IMV	462	162	10625	40x8	
Ford AA	1½	495	Own	L	4	3⅞x4¼	200.5	24.0	40@2200	G	Own	Long	Spic	Gem	Zen	Gra	Own	Own	4	Own	S-T	42.2	O4IM	358	131½	*2866	20x6.00B	32x6
Ford AA	1½	525	Own	L	4	3⅞x4

Major Specifications and Mechanical Details of 1931 Commercial Cars

(CONTINUED FROM PAGE FIVE)

Make and Model	Capacity—Tons or Lbs.	Chassis Price	Engine	Valve Arr'g'm't	No. of Cyls.	Bore and Stroke	Piston Disp.	Tax H. P.	Max. Brake H. P. and Peak R. P. M.	Type Camshaft Drive	Radiator Make	Clutch Make	Universals Make	Steering Gear Make	Carburetor Make	Fuel Feed Type	Make Electr'l System	Make Transmission	No. Spds. For.	Rear Axle Make	Rear Axle Type	Rear Axle Final Drive	Final Gear Reduction	Type Service Brakes	Area Service Brakes	Standard Wheel Base	Chassis Wgt.	Standard Tire Sizes Front	Standard Tire Sizes Rear
General Motors T-42	*15000	1845	Buick	H	6	3½x4⅝	267.5	28.3	76@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Own	4	Own	Sp	33.4	B4IM	524	141	4725	32x6P	32x6DP
General Motors T-44	*16000	1935	Buick	H	6	3½x4⅝	267.5	28.3	76@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Own	4	Own	2R	50.7	B4IM	524	141	5050	32x6P	32x6DP
General Motors T-45	*16000	1990	Own	H	6	3½x4⅝	267.5	28.3	76@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Own	4	Own	Sp	40.6	B4IM	574	155	5955	34x7P	34x7DP
General Motors T-51	*19000	2690	Own	H	6	3¾x5	331.4	33.7	94@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Own	4	Own	Wo	52.5	B4IM	685	154	6925	34x7P	34x7DP
General Motors T-55	*22000	3035	Buick	H	6	3¾x5	331.4	33.7	94@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Own	4	Own	Wo	52.5	B4IM	685	154	6925	34x7P	34x7DP
General Motors T-60	*22000	3445	Own	H	6	3¾x5	331.4	33.7	94@2500	G	Long	Own	Spic	Sag	Str	P	DR	Own	4	Own	Wo	52.5	B4IMV	685	154	6965	20x9.00B	20x9.00DB
General Motors T-61	*24000	3795	Own	H	6	3¾x5	331.4	33.7	94@2500	G	Long	Own	Pet	Sag	Str	P	DR	Own	12	Own	Wo	142.5	B4IM	793	155	7500	20x9.00B	20x9.00DB
General Motors T-82	*24000	3999	Own	H	6	3¾x5	331.4	33.7	94@2500	G	Long	Own	Spic	Sag	Str	P	DR	Own	12	Own	Wo	142.5	B4IMV	865	155	7670	20x9.00B	20x9.00DB
General Motors T-83	*30000	5600	Own	H	6	4¼x5½	468.0	43.3	115@2100	C	Long	Own	Spic	Sag	Str	P	DR	Own	4	Own	2R	53.3	B4IMV	865	171	10630	20x9.75B	20x9.75DB
General Motors T-85	*28000	5285	Own	H	6	3¾x5	331.4	33.7	94@2500	G	Long	Own	Pet	Sag	Str	P	DR	Own	12	Own	Wo	129.0	BrIA	868	185	9400	20x7.50B	20x7.50DB
†General Motors T-90	*40000	7545	Own	H	6	4¼x5½	468.0	43.3	115@2100	C	Long	Own	Spic	Sag	Str	P	DR	Own	4	Own	Wo	53.3	B6IA	1191	189	13250	34x7P	34x7DP
†General Motors T-95	*40000	7545	Own	H	6	4¼x5½	468.0	43.3	115@2100	C	Long	Own	Spic	Sag	Str	P	DR	Own	4	Own	2R	51.1	B6IA	1191	189	13250	34x7P	34x7DP
†General Motors T-96	*34000	7195	Own	H	6	4¼x5½	468.0	43.3	115@2100	C	Long	Own	Spic	Sag	Str	P	DR	Own	4	Own	2R	51.1	B6IA	1191	189	12850	34x7P	34x7DP
Gramm A X 4	1	795	Con	L	4	3⅞x4	200.4	24.0	50@2800	C	Per	Jon	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	36.3	L4IH	380	131	*3300	20x6.00	20x6.50
Gramm A X 6	1	895	Con	L	6	3⅜x4	214.0	27.3	61@3000	C	Per	Jon	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	36.3	L4TH	380	131	3550	20x6.00	20x6.50
Gramm B X 4	1½	895	Con	L	4	3⅞x4¼	200.4	24.0	50@2800	C	Per	Jon	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	36.3	L4IH	380	131	3475	20x6.00	20x6.00D
Gramm B X 6	1½	995	Con	L	6	3⅜x4	214.7	27.3	61@3000	C	Per	Jon	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	36.3	L4IH	380	131	3725	20x6.00	20x6.00D
Gramm B	1¾	1495	Lyc	L	6	3¼x4½	224.0	25.3	61@2900	G	Per	Own	Blo	Ross	Zen	Vac	Aut	Cov	4	Tim	Sp	34.3	L4IH	278	140	4150	20x6.50	20.6.50D
†Gramm C X 4	2	1095	Con	L	4	4⅛x4¼	227.0	27.2	55@2600	G	Per	Jon	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	37.0	L4IH	452	131	3900	20x6.50	20.6.50D
Gramm C X 6	2	1295	Con	L	6	3⅜x4⅛	248.2	27.3	70@3000	G	Per	Jon	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	37.0	L4IH	452	131	4150	20x6.50	20x6.50D
Gramm C	2	1795	Lyc	L	6	3⅜x4½	278.6	31.5	82@2600	G	Per	Own	Blo	Ross	Zen	P	Aut	Cov	4	Tim	Sp	31.0	L4IH	353	160	4800	20x7.00	20x7.00D
Gramm D	2½	1935	Lyc	L	6	3¾x4½	299.0	33.7	90@2200	G	Per	Jon	Blo	Ross	Zen	P	Aut	Cov	4	Tim	Sp	33.0	L4IHV	339	160	5200	20x7.50	20x7.50D
Gramm E	3	2595	Lyc	L	6	3⅞x4¾	353.8	36.0	90@2200	G	Per	Own	Blo	Ross	Zen	P	Aut	Cov	4	Tim	Sp	35.0	L4IHV	659	160	5950	20x8.25	20x8.25D
Gramm E Y	3	3595	Con	H	6	4⅛x4¾	380.8	40.8	90@2200	C	Per	Ful	Blo	Ross	Zen	P	Aut	Cov	4	Tim	Sp	30.0	L41HA	—	190	7200	20x7.50	20x7.50D
Gramm G	4	3695	Con	H	6	4⅜x4¾	428.4	45.9	100@2200	C	Per	Br-L	Blo	Ross	Zen	P	Aut	Br-L	4	Wis	2 R	49.5	L4IHV	768	160	8200	20x9.00	20x9.00
Gramm G Y	4	4345	Con	H	6	4⅜x4¾	428.4	45.9	100@2200	C	Per	Ful	Blo	Ross	Zen	P	Aut	Cov	4	Wis	2R	28.0	BW41M	736	210	7700	20x8.25	20x8.25D
Gramm G W	5	5175	Con	H	6	4⅜x4¾	428.0	45.9	100@2200	C	Per	Br-L	Blo	Ross	Zen	P	Aut	Br-L	4	Wis	2R	—	41A	864	157	9500	20x9.00	20x9.00D
Gramm H Y	5	6545	Con	L	6	4¾x5¾	611.4	54.1	127@2300	G	Per	Ful	Blo	Ross	Zen	P	Aut	Ful	4	Wis	2R	25.2	41A	996	236	10100	20x9.00	20x9.00
Indiana 64	6500	1195	Con	L	6	3¾x4⅝	248.2	27.3	65@2700	C	Long	Borg	Spic	Ross	Str	Vac	Aut	Br-L	3	Col	Sp	21.3	C4IM	344	137	*3400	30x5	30x5
Indiana 74	7500	1290	Con	L	6	3⅞x4⅝	248.2	27.3	65@2700	C	Long	Borg	Spic	Ross	Str	Vac	Aut	Br-L	4	Col	Sp	25.6	C4IM	190	137	3450	32x6	32x6
Indiana 89	9000	1525	Con	L	6	3¾x4⅝	248.2	27.3	65@2700	C	Long	Borg	Spic	Ross	Str	Vac	Aut	Br-L	4	Col	Sp	20.9	C4IM	292	149	4050	32x6	32x6
Indiana 111 XW	12500	1850	Her	L	4	4 x5	251.3	25.6	46@2000	G	McC	Borg	Spic	Ross	Str	Vac	Aut	Br-L	4	Wis	2R	35.2	K2IM	270	120	3740	32x6	32x6D
Indiana 120	12000	1990	Con	H	6	4 x4⅛	311.0	38.4	73@2400	C	G &O	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Tim	Sp	31.3	L4IH	353	156	5400	32x6	32x6D
Indiana 140	14000	2495	Con	H	6	4 x4⅛	311.0	38.4	73@2400	C	G &O	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2R	35.3	L4IHV	356	156	6100	32x6	32x6D
Indiana 141	17000	2935	Con	H	6	4 x4⅛	311.0	38.4	73@2400	C	G &O	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2R	46.2	L4IHV	380	170	6500	32x6	32x6D
Indiana 170	17000	3160	Con	H	6	4½x4¾	380.9	40.8	89@2400	C	G &O	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2R	46.6	L4IHV	380	170	7100	32x6	32x6D
Indiana 175	17500	3660	Con	H	6	4⅜x4¾	427.5	45.9	100@2400	C	G &O	—	Spic	Ross	Str	P	Aut	—	5	Wis	2R	45.3	L4IHV	380	170	7200	34x7	34x7D
Indiana 195	19500	3820	Con	H	6	4½x4¾	380.9	40.8	89@2400	C	G &O	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2R	49.7	L4IHV	471	170	8100	34x7	34x7D
Indiana 220	22000	4560	Con	H	6	4⅜x4¾	427.5	45.9	100@2400	C	G &O	Br-L	Spic	Ross	Str	F	Aut	Br-L	4	Tim	Wo	63.7	LT4IHV	664	182	10000	40x8	40x8D
Indiana 250	25000	5950	Con	H	6	4⅜x4¾	427.5	45.9	100@2400	C	Long	Br-L	Spic	Ross	Str	P	L-N	Br	7	Tim	Wo	95.0	T4IA	676	182	10750	38x7P	40x14S
Indiana 290	30000	7250	Con	L	6	4¾x5¾	611.4	54.1	116@1800	C	Long	Br-L	Spic	Ross	Str	P	L-N	Br	7	Tim	Wo	90.9	T4IA	864	212	14000	38x7P	36x10S
*Indiana 640	40000	9700	Con	L	6	4¾x5¾	611.4	54.1	116@1800	C	Long	Br-L	Spic	Ross	Str	P	L-N	Br	7	Tim	Wo	90.9	T4IA	864	212	14000	38x7P	36x10S
International A 1	¾	615	Wak	L	4	3⅝x4½	186.0	21.0	39@2400	G	Mod	Mec	Mec	Ross	Zen	Vac	DR	W-G	4	Own	Sp	39.5	BE4IM	212	136	2930	5.50x20	5.50x20
International A 2	1½	615	Wak	L	4	3⅝x4½	186.0	21.0	39@2400	G	Mod	Mec	Mec	Ross	Zen	Vac	DR	W-G	4	Own	Sp	39.5	BE4IM	212	136	*2935	5.50x20	6.00x20
International B 2	1½	665	Wak	L	4	3⅝x4½	186.0	21.0	39@2400	G	Mod	Mec	Mec	Ross	Zen	Vac	DR	Mec	6	Own	Sp	47.3	BE4IM	212	136	2960	5.50x20	6.00x20
International A L 3	1½	1450	Lyc	L	6	3¼x4½	224.0	25.3	54@2700	G	Mod	Own	Mec	Ross	Zen	Vac	DR	W-G	4	Own	Sp	42.9	B4IM	295	138	4032	20x6.00	20x6.00D
International A 3	1½	795	Lyc	L	6	3¼x4½	224.0	25.3	54@2700	G	Mod	Rock	Mec	Ross	Zen	P	DR	W-G	4	Own	Sp	33.8	BE4IM	287	136	3500	6.00x20	6.00x20
International A 3½	1½	1250	Lyc	L	6	3¼x4½	224.0	25.3	54@2700	G	Mod	Rock	Mec	Ross	Zen	P	DR	W-G	4	Own	Sp	34.9	BE4IM	302	136	3700	6.00x20	6.00x20D
International A 4	2	1750	Own	H	6	3⅝x4½	279.0	31.5	67@2600	G	Mod	Own	Mec	Ross	Zen	Vac	DR	Own	5	Own	Sp	47.8	BE4IM	378	145	5221	32x6	32x6D
International A 5	3	2350	Own	H	6	3⅝x4½	279.0	31.5	67@2600	G	Mod	Own	Mec	Ross	Zen	Vac	DR	Own	5	Own	Sp	52.6	BE4IM	430	156	5895	34x7	34x7D
International A 6	3	2675	Own	H	6	3⅝x4½	279.0	31.5	67@2600	G	Mod	Own	Mec	Ross	Zen	Vac	DR	Own	5	Own	Sp	62.5	BE4IM	430	156	6120	34x7	34x7D
International W 1	2½	3850	Hall	H	4	4¼x5½	312.0	28.9	59@2000	C	Own	Own	Own	Own	Zen	Vac	RB	Own	5	Own	2R	60.5	BE4IM	710	148	8300	36x8S	36x8S
International W 3	3½	4850	Hall	H	4	4¾x5½	390.0	36.1	69@2000	C	Own	Own	Own	Own	Zen	Vac	RB	Own	5	Own	2R	70.5	BE4IM	794	160	10125	36x8S	40x12S
International A 7	5	6200	Own	H	6	4½x5½	525.0	48.6	117@2200	G	Mod	Rock	Mec	Ross	*Zen	P	DR	Own	5	Own	2 R	52.3	BO4IM	730	123	11250	9.75x20	9.75x20D
International A 8	5	6300	Own	H	6	5 x5½	650.0	60.0	136@2100	G	Mod	Rock	Mec	Ross	*Zen	P	DR	Own	5	Own	2 R	52.3	BO4IM	730	123	11250	9.75x20	9.75x20D
La France Rep. A 1	6000	795	Lyc	L	6	3 x4¾	201.5	21.5	60@2500	G	G&O	Borg	Spic	Han	Zen	Vac	Aut	Ful	4	Tim	Sp	36.1	L4IH	378	132	3000	20x5.50	32x6
La France Rep. C 1	7500	1295	Lyc	L	6	3¼x4½	224.0	25.4	61@2750	G	G&O	Borg	Spic	Han	Zen	Vac	Aut	Ful	4	Tim	Sp	29.1	L4IH	413	144	3300	20x6.00	32x6
La France Rep. D 1	9000	1595	Lyc	L	6	3¼x4½	224.0	25.4	61@2750	G	G&O	Borg	Spic	Han	Zen	Vac	Aut	Ful	4	Tim	Sp	37.9	L4IH	448	144	3725	30x5	30x5D
La France Rep. E-1	13000	1985	Bud	L	6	3½x4½	260.	29.5	69@2600	G	Per	Borg	Spic	Han	Zen	Vac	Aut	Ful	4	Tim	Sp	40.1	L4IHV	536	150	5000	20x7.50	20x7.50D
La France Rep. F-3	13600	2395	Lyc	L	6	3¾x4½	299.0	33.7	80@2500	G	Per	Ful	Spic	Han	Zen	P	Aut	Ful	4	Tim	Sp	40.1	L4IHV	628	174	5520	34x7	34x7
La France Rep. H 2	16000	2985	Lyc	L	6	3⅞x5	354.0	36.0	85@2300	G	Per	Ful	Spic	Han	Zen	P	Aut	Ful	4	Wis	2R	41.6	L4IHV	658	174	6370	34x7	34x7D
La France Rep. M 2	20000	4000	Wak	L	6	4⅞x5½	462.0	46.0	97@2000	G	Per	Ful	Spic	Han	Zen	P	Aut	Ful	5	Wis	2R	48.1	L4IHV	766	174	7500	36x8	36x8D
La France Rep. 35-2	24000	5600	Wak	L	6	4½x5¾	549.0	48.6	98@1850	G	Own	Ful	Spic	Han	Zen	P	Aut	Ful	4	Wis	2R	45.4	L4IHV	870	174	9250	38x9	38x9D
Maccar 36 A	1½	1900	Bud	L	6	3¾x4½	298.0	33.7	83@2800	G	Per	Br-L	Spic	Ross	Str	P	DR	Br-L	4	Tim	Sp	30.6	L4IH	315	171	4850	32x6	32x6D
Maccar 40 A	2	2400	Bud	L	6	3¾x4½	298.0	33.7	83@2800	G	Per	Br-L	Spic	Ross	Str	P	DR	Br-L	4	Tim	Sp	38.8	L4IHV	325	171	5340	32x6	32x6D
Maccar 56	3	3350	Bud	L	6	3¾x5	311.0	33.7	72@2100	G	Per	Br-L	Spic	Ross	Str	Vac	DR	Br-L	4	Wis	2 R	37.4	L4IHV	411	183	6200	34x7	34x7D
Maccar 60	4	3950	Bud	L	6	4⅛x5½	411.0	40.8	103@2100	G	Per	Br-L	Spic	Ross	Str	Vac	DR	Br-L	4	Tim	Wo	34.3	L4IHV	411	183	6600	20x9.00	20x9 00D
Maccar 66 A	4	5500	Her	L	6	4⅝x4¾	479.0	51.3	106@2100	G	Per	Br-L	Spic	Ross	Zen	Vac	DR	Br-L	7	Tim	Wo	64.5	W4IA	617.5	206	8200	20x9.75	20x9.75D
Maccar 86 A	5	5950	Her	L	6	4⅝x4¾	479.0	51.3	106@2100	G	Per	Br-L	Spic	Ross	Zen	Vac	DR	Br-L	7	Tim	Wo	72.3	W4IA	623	206	9500	20x10.50	20x10.50D
†Maccar SW-86	10	8250	Her	L	6	4⅝x5¼	529.0	51.3	124@2200	G	Per	Br-L	Spic	Ross	Zen	Vac	DR	Br-L	5	Tim	Wo	72.3	T6IA	103	206	11700	20x10.50	20x10.50D
††Mack B L	——	2500	Own	L	6	3¼x5	248.9	25.3	63@2800	G	Own	Own	Spic	Gem	Str	Vac	NE	Own	4	Tim	Sp	Opt	L4IH	302	148	*4450	20x6.00B	20x6.00DB
††Mack B G	——	3000	Own	L	6	3⅜x5	309.6	31.5	75@2600	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	Sp	Opt	O4IV	415	156	5200	32x6	32x6D
††Mack A B	——	4350	Own	L	4	4¼x5	283.7	28.9	60@2200	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	2 R	Opt	O4IV	471	146½	7100	34x7	34x7D
Mack A B	——	4000	Own	L	4	4¼x5	283.7	28.9	60@2200	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	Ch	Opt	O4IV	471	146½	6850	34x7	34x7D
Mack A B	——	4500	Own	L	6	3⅝x5	309.6	31.5	75@2600	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	2 R	Opt	O4IV	471	146½	7050	34x7	34x7D
††Mack A B	——	4150	Own	L	6	3⅝x5	309.6	31.5	75@2600	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	Ch	Opt	O4IV	471	146½	6850	34x7	34x7D
††Mack B C	——	5250	Own	L	6	4 x5½	417.7	38.4	100@2300	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	2 R	Opt	O4IV	471	154	8350	36x8	36x8D
††Mack B C	——	5500	Own	L	6	4 x5½	417.7	38.4	100@2300	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	Ch	Opt	O4IV	610	154	8500	36x8	36x8D
††Mack B J	——	6150	Own	L	6	4½x5½	525.2	48.6	126@2200	G	Own	Own	Spic	Own	Str	Vac	L-N	Own	4	Own	2 R	Opt	O4IV	567	168½	10100	36x8	36x8D
††Mack A K	——	5150	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	RB	Own	4	Own	Ch	Opt	O4IV	492	162	9800	36x5S	36x5DS
††Mack A K	——	5250	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	RB	Own	4	Own	2 R	Opt	O4IV	492	162	9700	36x5S	36x5DS
††Mack A C	——	4950	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	RB	Own	4	Own	Ch	Opt	OJXM	194	156	9500	36x5S	40x5DS
††Mack A K	——	6450	Own	L	6	4½x5½	525.5	48.6	126@2200	G	Own	Own	Spic	Han	Str	Vac	L-N	Own	4	Own	2 R	Opt	O4IV	492	174	10950	22x10.50B	22x10.50DS
††Mack A C	——	5500	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	RB	Own	4	Own	Ch	Opt	OJXM	194	156	10100	36x6S	40x6DS
††Mack A C	——	6550	Own	L	6	4½x5½	525.5	48.6	126@2200	G	Own	Own	Spic	Han	Str	Vac	L-N	Own	4	Own	Ch	Opt	O4IV	492	174	11950	24x10.50B	24x10.50DB
††Mack A C	——	6000	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	RB	Own	4	Own	Ch	Opt	OJXM	194	156	10450	36x7S	40x7DS
††Mack A P	——	9500	Own	L	6	5 x6	706.5	60.0	150@2000	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	O2IV	287	191	12200	36x7S	40x8DS
††Mack A K 6—6 wheel	——	9500	Own	L	6	4½x5½	525.2	48.6	126@2200	G	Own	Own	Spic	Own	Str	Vac	L-N	Own	4	Own	2 R	Opt	O6IA	574	152-52	16300	9.75x22B	5.75x22DB
††Mack A C 6 wheel	——	7650	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	RB	Own	4	Own	Ch	Opt	ORIV	574	125-52	13800	36x6S	40x12S
††Mack A C 6—6 wheel	——	9000	Own	L	6	4½x5½	525.2	48.6	126@2200	G	Own	Own	Spic	Own	Str	Vac	L-N	Own	4	Own	Ch	Opt	O6IA	574	145-52	14950	40x8	40x8D
Mack A P 6 wheel	——	11500	Own	L	6	5 x6	706.5	60.0	150@2000	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	O6IA	574	145-52	15250	40x8	40x8D
††Mack A P 6 wheel	——	12000	Own	L	6	5 x6	706.5	60.0	150@2000	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	2 R	Opt	O6IA	574	145-52	——	22x9.75B	7.5x9.75B
Pierce-Arrow P T	12000	2950	Own	L	6	3¾x4½	298.0	33.5	70@2600	G	Long	Long	Cle	Han	Zen	P	DR	Cla	4	Tim	Sp	——	B4IMV	388	160	*5600	20x7.50B	20x7.50B
Pierce-Arrow P W	18000	4150	Own	L	6	4⅛x4½	361.0	40.3	77@2400	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	*Wo	——	W4IA	488	150	6660	20x9.00B	20x9.00B
Pierce-Arrow P X	24000	5375	Own	L	6	4⅜x4¾	479.0	51.3	103@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	*Wo	——	W4IA	610	160	9300	20x10.50B	20x10.50B
Pierce-Arrow P Y	28000	5950	Own	L	6	4⅝x4¾	479.0	51.3	103@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Own	*Wo	——	W4IA	701	160	10675	24x10.50B	24x10.50B
Pierce-Arrow P Z	34000	6930	Own	L	6	4¾x5¾	611.0	54.1	130@2000	G	Long	Long	Cle	Han	Zen	P	DR	Own	4	Own	*Wo	——	W4IA	702	168	12800	36x7B	40x16B
Relay Series 15 AA	¾	1370	Con	L	6	3¾x4	214.7	27.3	52@2200	C	Long	Borg	Blo	Han	Str	Vac	Aut	W-G	4	Own	2 R	38.4	L4IH	297	131	3750	30x5P	30x5P
Relay Series 15 AB	1	1400	Con	L	6	3⅜x4	214.7	27.3	52@2200	C	Long	Borg	Blo	Han	Str	Vac	Aut	W-G	4	Own	2 R	38.4	L4IH	297	131	3800	30x5P	30x5P
Relay Series S 11	1	1700	Bud	L	6	3⅜x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Own	2 R	25.5	L4IH	297	142	4050	30x5P	30x5P
Relay Series S 11	1½	1900	Bud	L	6	3⅜x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Own	2 R	30.0	L4IH	297	162	4500	30x5P	30x5DP
Relay 40 CA	1½	3040	Bud	L	6	3¾x5	331.0	33.7	64@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	4	Own	2 R	41.8	L4IH	394	168	5550	34x5P	34x5DP
Relay 40 CB	2	3290	Bud	L	6	3¾x5	331.0	33.7	64@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	4	Own	2 R	41.8	L4IH	394	168	5750	36x6P	36x6DP
Relay Series 50	2	3860	Bud	L	6	3¾x5	331.0	33.7	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	5	Own	2 R	58.5	L4IH	584	161	6800	36x6	36x6D
Relay Series S 11	2	2030	Bud	L	6	3⅜x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Own	2 R	30.0	L4IH	297	162	4700	32x6P	32x6DP
Relay 40 CC	2½	3325	Bud	L	6	3¾x5	331.0	33.7	64@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	4	Own	2 R	41.8	L4IH	394	168	5950	36x6P	36x6DP
Relay Series 50	2½	4000	Bud	L	6	3¾x5	331.0	33.7	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	5	Own	2 R	58.5	L4IH	584	161	7000	36x6	36x7D
Relay Series 60	2½	4555	Bud	L	6	4⅛x5⅛	410.9	40.8	83@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Own	2 R	58.5	L4IH	584	175	7350	36x6	36x6D
Relay Series 50	3	4130	Bud	L	6	3¾x5	330.0	33.7	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	5	Own	2 R	58.5	L4IH	584	161	7200	36x6	40x8D
Relay Series 60	3	4595	Bud	L	6	4⅛x5½	410.9	40.8	83@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Own	2 R	58.5	L4IH	584	175	7500	36x6	38x7D
Relay Series 80	3	5330	Bud	L	6	4⅛x5½	411.0	40.8	83@2100	G	Long	Borg	Blo	Ross	Zen	Vac	Aut	Cov	8	Own	2 R	84.1	L4IH	—	175	8400	36x6	40x10S
Relay Series 60	3½	4745	Bud	L	6	4⅛x5½	410.9	40.8	83@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Own	2 R	58.5	L4IH	584	175	7800	38x7	40x8D
Relay Series 80	3½	5330	Bud	L	6	4⅛x5½	411.0	40.8	83@2100	G	Long	Borg	Blo	Ross	Zen	Vac	Aut	Cov	8	Own	2 R	84.1	L4IH

Major Specifications and Mechanical Details of 1931 Commercial Cars

(CONTINUED FROM PAGE SIX)

Make and Model	Capacity—Tons or Lbs.	Chassis Price	Engine	Valve Arr'g'm't	No. of Cyls.	Bore and Stroke	Piston Disp.	Tax H. P.	Max. Brake H. P. and Peak R. P. M.	Type Camshaft Drive	Radiator Make	Clutch Make	Universals Make	Steering Gear Make	Carburetor Make	Fuel Feed Type	Make Electr'l System	Transmission Make	No. Spds. For.	Rear Axle Make	Rear Axle Type	Final Drive	Final Gear Reduction	Type Service Brakes	Area Service Brakes	Standard Wheel Base	Chassis Wgt.	Standard Tire Sizes Front	Standard Tire Sizes Rear
Service Series S 11	1	1600	Bud	L	6	3⅜x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Col	Sp	25.5	——	——	142	3900	30x5P	30x5P
Service Series S 11	1½	1900	Bud	L	6	3⅜x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Sp	29.2	L4IH	297	162	4300	30x5P	30x5DP
Service Series 40	1½	2990	Bud	L	6	3¾x5	331.0	33.7	64@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	4	Tim	Wo	34.8	L4IH	394	168	4700	34x5P	34x5DP
Service Series S 11	2	2030	Bud	L	6	3⅜x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Sp	29.2	L4IH	297	162	4500	32x6	32x6D
Service Series 40	2	3340	Bud	L	6	3¾x5	331.0	33.7	64@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	4	Tim	Wo	34.8	L4IH	394	168	4900	36x8	36x6D
Service Series 40	2½	3340	Bud	L	6	3¾x5	331.0	33.7	64@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	4	Tim	Wo	34.8	L4IH	394	168	5100	36x6F	36x6D
Service Series 60	2½	4580	Bud	L	6	4½x5½	410.9	40.8	83@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Tim	Wo	63.0	L4IH	584	175	7000	36x6	36x6D
Service Series 60	3	4680	Bud	L	6	4½x5½	410.9	40.8	83@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Tim	Wo	63.0	——	——	175	7100	36x6	38x7D
Service Series 80	3½	5250	Bud	L	6	4½x5½	411.0	40.8	83@2100	G	Long	Borg	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	98.2	——	——	175	8200	36x6S	36x12S
Service Series 80	4	5330	Bud	L	6	4½x5½	411.0	40.8	83@2100	G	Long	Own	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	98.2	——	——	175	8400	36x6S	36x14S
Service Series 100	5	5830	Bud	L	6	4½x5½	410.9	40.8	83@2100	G	Long	Own	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	95.0	——	793	175	9600	36x6S	40x14S
Stewart 30	1	695	Lyc	L	4	3¾x4½	199.0	22.5	50@2600	G	Fed	Borg	Spic	Ross	Str	P	DR	W-G	4	Sal	Sp	35.1	B4IM	——	130	*3158	20x6.50	20x6.50
Stewart 30 X	1	795	Lyc	L	6	3 x4¾	185.0	23.8	60@2800	G	Fed	Borg	Spic	Ross	Str	P	DR	W-G	4	Sal	Sp	35.1	B4IM	——	130	3199	20x6.50	20x6.50
Stewart 40	1½	895	Lyc	L	4	3¾x4½	199.0	22.5	50@2600	G	Fed	Borg	Spic	Ross	Str	P	DR	W-G	4	Cla	Sp	35.1	B4IM	——	130	3531	20x6.50	20x6.50D
Stewart 40 X	1½	995	Lyc	I	6	3 x4½	201.5	23.8	60@2800	G	Fed	Borg	Spic	Ross	Str	P	DR	W-G	4	Sal	Sp	35.1	B4IM	——	130	3574	20x6.50	20x6.50D
Stewart 34 X	1½	1195	Lyc	L	6	3¼x4½	224.0	25.3	61@2600	G	Own	Borg	Spic	Ross	Str	P	DR	W-G	4	Cla	Sp	35.1	B4IM	——	145	3891	20x6.50	20x6.50D
Stewart 28 X	2	1495	Lyc	L	6	3¼x4½	224.0	25.3	61@2600	G	Own	Ful	Spic	Ross	Str	P	DR	Ful	4	Cla	Sp	44.1	B4IM	——	136	4239	20x6.50	20x6.50D
Stewart 29 X S	2	1695	Lyc	L	6	3⅝x4½	278.0	31.5	85@2750	G	Own	Ful	Spic	Ross	Str	P	DR	Ful	4	Cla	Sp	44.1	B4IM	——	145	5194	32x6	32x6D
*Stewart 18 X	2½	2690	Lyc	L	6	3⅞x5	310.0	36	85@2750	G	Own	Ful	Spic	Ross	Str	P	DR	Ful	4	Tim	Wo	48.1	B4IM	——	165	6245	32x6	32x6D
Stewart 32 X	2½	1990	Lyc	L	6	3⅝x4½	278.0	31.5	80@2500	G	Mod	Ful	Spic	Ross	Str	P	DR	Ful	4	Cla	Sp	46.1	B4IM	——	165	6552	32x6	32x6D
Stewart 35 X	3	2590	Lyc	L	6	3¾x4½	299.0	33.8	85@2750	G	Fed	Ful	Spic	Ross	Str	P	DR	Ful	4	Cla	Sp	46.1	B4IM	——	165	6224	20x8.25B	20x8.25D
Stewart 36 X	3	2990	Lyc	L	6	3⅞x5	354.0	36.2	90@2750	G	Fed	Borg	Spic	Ross	Str	P	DR	Br-L	4	Tim	Wo	105.1	B4IM	——	165	6864	20x8.25	20x8.25D
Stewart 48-8	3	2990	Lyc	L	8	3¾x4¾	420.0	130.0	45@2800	G	Fed	Br-L	Spic	Ross	Str	P	DR	Br-L	4	Cla	Sp	46.1	B4MV	——	170	6750	8.25x20B	8.25x20DB
Stewart 19 X	3½	3690	Lyc	L	6	3⅞x5	354.0	36.2	90@2750	G	Mod	Ful	Spic	Ross	Str	P	DR	Ful	12	Tim	Wo	105.1	B4IM	——	165	7474	34x7	34x7D
Stewart 38-8	3½	3990	Lyc	L	8	3¾x4¾	462.0	44.4	130@2800	G	Fed	Borg	Spic	Ross	Str	P	DR	Br-L	12	Tim	2R	105.1	B4IMV	——	170	7964	20x9.00	20x9.00D
Stewart 38-6	3½	3990	Wak	L	6	4⅜x5½	420.0	45.9	100@2600	G	Fed	Borg	Spic	Ross	Str	P	DR	Br-L	12	Tim	2R	105.1	B4IMV	——	170	7964	20x9.00	20x9.00D
Stewart 31 X	5	4090	Wak	L	6	4⅝x5½	516	51.2	105@2000	G	Mod	Br-L	Spic	Ross	Str	P	DR	Br-L	12	Tim	Wo	105.1	B4IMV	——	165	9885	36x8S	36x8SD
Stewart 27 X S	7	6190	Wak	L	6	4⅝x5½	516	51.2	105@2000	G	Own	Br-L	Spic	Ross	Str	P	DR	Br-L	12	Tim	Wo	105.1	B4IMV	——	165	10762	36x7	24x10.50D
Studebaker S-1	½	595	Own	L	6	3⅜x4⅛	221.0	27.3	70@3200	C	McC	Long	Spic	Ross	Str	P	DR	W-G	3	Own	Sp	16.4	B4IM	148	114	——	19x5.25	19x5.25
Studebaker S-20	1½	695	Own	L	6	3¼x4½	205.0	25.4	70@3200	C	McC	Long	Spic	Ross	Str	P	DR	W-G	4	Cla	Sp	36.2	B4IM	224	130	2905	20x6.00	32x6
Studebaker S-30	1½	775	Own	L	6	3¼x4½	205.0	25.4	70@3200	C	McC	Long	Spic	Ross	Str	P	DR	W-G	4	Cla	Sp	36.2	B4IM	224	160	3130	20x6.00	32x6
Studebaker S-40	2	895	Own	L	6	3¼x4½	205.0	25.4	70@3200	C	McC	Long	Cle	Ross	Str	P	DR	W-G	4	Tim	Sp	43.5	B4IM	276	136	3705	20x6.50	20x6.50D
Studebaker S-50	2	920	Own	L	6	3¼x4½	205.0	25.4	70@3200	C	McC	Long	Cle	Ross	Str	P	DR	W-G	4	Tim	Sp	43.5	B4IM	276	148	3835	20x6.50	20x6.50D
Studebaker S-60	2	945	Own	L	6	3¼x4½	205.0	25.4	70@3200	C	McC	Long	Cle	Ross	Str	P	DR	W-G	4	Tim	Sp	43.5	B4IM	276	160	3890	20x6.50	20x6.50D
Studebaker 88	——	3295	Own	L	8	3½x4⅜	337.0	39.2	115@3200	G	Long	Long	Spic	Ross	Str	P	DR	Ful	4	Eat	Sp	24.6	B4IMV	444	184	5413	20x7.50	20x7.50D
Studebaker 99	——	3795	Own	L	8	3½x4⅜	337.0	39.2	115@3200	G	Long	Long	Spic	Ross	Str	P	DR	Ful	4	Eat	Sp	24.6	B4IMV	505	184	5680	20x7.50	20x7.50D
White 15 B	*7500	1545	Own	L	4	3¾x5½	226.4	22.5	31@1600	G	Own	Own	Spic	Own	Zen	Vac	L-N	Own	4	Own	Sp	18.6	O2XM	226	133½	3402	30x5	30x5
White 160	*8000	1700	Own	L	4	4 x5¾	289.0	25.6	45@1800	G	—	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4025	30x5	30x5
White 60	*8000	1850	Own	L	6	3½x4½	260.0	29.4	54@2100	C	Own	Own	Mec	Han	Zen	Vac	DR	Own	3	Own	Sp	17.8	L4IH	276	138	3739	30x5	30x5
**White 60 K	8500	2200	Own	L	6	3½x4½	260.0	29.4	50@1800	C		Own	Mec	Han	Zen	Vac	DR	Own	3	Own	Sp	17.6	L4IH	276	112	——	20x7.00B	20x7.00B
White 161	*9000	1700	Own	L	4	4 x5¾	289.0	25.6	45@1800	G		Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4290	20x7.00B	20x7.00DB
White 60I	9000	1850	Own	L	6	3½x4½	260.0	29.4	54@2100	C		Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4000	20x7.50B	20x7.50B
White 60J	10000	2050	Own	L	6	3½x4½	260.0	29.4	54@2100	C		Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4050	20x7.00B	20x7.00DB
White 162	*10000	1900	Own	L	4	4 x5¾	289.0	25.6	45@1800	G		Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4260	20x7.50B	20x7.50B
White 210	*10000	2300	Own	L	4	4 x5¾	289.0	25.6	45@1800	G		Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	4875	30x5	30x5D
White 61	*10500	2450	Own	L	6	3¾x4½	299.0	33.7	66@2100	C	Own	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	4789	30x5	30x5D
White 611	*11500	2450	Own	L	6	3¾x4½	299.0	33.7	66@2100	C	—	Own	—	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	4960	36x4S	36x7S
White 211	*11500	2300	Own	L	4	4 x5¾	289.0	25.6	45@1800	G	—	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	5110	20x7.00B	20x7.00DB
White 212	*13000	2650	Own	L	4	4 x5¾	289.0	25.6	45@1800	G	—	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	5230	20x7.00B	20x7.00DB
White 56	*13000	3125	Own	L	4	4 x5¾	289.0	25.6	45@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	Sp	26.2	O2IM	368	165	5276	20x7.00B	20x7.00DB
White 612	*13000	2800	Own	L	6	3¾x4½	299.0	33.7	66@2100	C	—	Own	—	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	5295	20x7.50B	20x7.50DB
White 620	*15000	4350	Own	H	6	4 x5¼	396.0	38.4	82@1800	C	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Own	Sp	41.8	OL4IHV	—	157	7430	20x8.25B	20x8.25DB
White 51 A	*17000	3750	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	Sp	35.6	O2IM	335	170	6438	36x5	36x8S
White 51 AT	*17000	3875	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	Sp	46.6	O2IM	335	134	6227	36x5S	36x8S
White 621	*18000	4650	Own	H	6	4 x5¼	396.0	38.4	82@1800	C	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Own	Sp	41.4	OL4IHV	—	157	7700	20x9.00B	20x9.00DB
White 640	*20000	6100	Own	H	6	4⅜x5¾	519.0	45.9	108@1800	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	Sp	33.9	O4IA	—	180	9200	20x9.00B	20x9.00DB
White 630	*20000	5000	Own	H	6	4 x5¼	396.0	38.4	82@1800	C	—	Own	Spic	Ross	Zen	P	DR	Own	4	Own	Sp	41.4	O4IHV	554	168	8500	20x9.00B	20x9.00DB
White 55	*21500	4650	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	2R	66.1	OPXM	224	174	8737	36x5	40x5SD
White 58	*22000	4400	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	3R	49.7	OPXM	224	180	7797	36x5	36x5SD
White 641	*24000	6450	Own	H	6	4⅜x5¾	519.0	45.9	108@1800	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	3R	46.9	O4IA	—	180	9700	20x9.75B	20x9.75DB
*White 630 SW200	*24000	6280	Own	H	6	4 x5¼	396.0	38.4	82@1800	C	—	Own	—	Ross	Zen	P	DR	Own	4	Tim	Wo	44.2	OTIHV	—	193	10000	20x8.25B	20x8.25DB
White 631	*24000	5750	Own	H	6	4 x5¼	396.0	38.4	82@1800	C	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Own	2R	56.9	O4IHV	—	168	9000	20x9.25B	20x9.25DB
White 52	*28000	5100	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	2R	58.4	OPXM	224	174	9409	36x6	40x12S
White 52 T	*28000	4700	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	2R	76.5	OPXM	224	129½	8461	36x5S	40x5SD
White 643	*32000	6950	Own	H	6	4⅜x5¾	519.0	45.9	108@1800	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	2R	66.5	O4IA	—	180	10900	24x10.50B	24x10.50DB
*White 642 SW310	*34000	8045	Own	H	6	4⅜x5¾	519.0	45.9	108@1800	C	—	Own	Spic	Ross	Zen	P	L-N	Own	4	Tim	Wo	55.6	OTIA	—	198	12670	20x9.00B	20x9.00DB
White 642	*28000	6750	Own	H	6	4⅜x5¾	519.0	45.9	108@1800	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	2R	66.5	O4IA	—	180	10600	24x9.75B	24x9.75DB
*White 643 SW410	*40000	8570	Own	H	6	4⅜x5¾	519.0	45.9	108@1800	C	—	Own	Spic	Ross	Zen	P	L-N	Own	4	Tim	Wo	69.1	OTIA	—	198	14400	40x8	40x8D
Willys 6-C-113	½	395	Own	L	6	3¼x3⅞	193.0	25.3	65@3400	C	Fed	Borg	Spic	Own	Til	P	Aut	Own	3	Own	Sp	12.4	B4IM	143	113	1923	20x5.50	32x6
Willys 6-C-131	1½	595	Own	L	6	3¼x3⅞	193.0	25.3	65@3400	C	Fed	Borg	Spic	Own	Til	P	Aut	W-G	4	Cla	Sp	40.8	B4IM	235	131	2625	20x5.50	32x6
Willys 6-C-157	1½	630	Own	L	6	3¼x3⅞	193.0	25.3	65@3400	C	Fed	Borg	Spic	Own	Til	P	Aut	W-G	4	Cla	Sp	40.8	B4IM	235	157	2900	19x5.00	19.x5.00

GENERAL NOTATIONS

***†REFERENCE MARKS** apply to individual lines only and explanations are given under the subdivision for each company in the "SPECIAL NOTATIONS."

CAPACITIES given in this table are in tons or fractions of tons. *Shows maximum allowable gross weight in pounds.

ENGINE—Bud, Buda; Con, Continental; Her, Hercules; Lyc, Lycoming; Pont, Pontiac; Wak, Waukesha; Wis, Wisconsin; Hall, American Car & Foundry.

VALVE ARRANGEMENT—L, "L" head; H, in head; O, overhead; S, sleeve.

TYPE OF CAMSHAFT DRIVE—G, gear; C, chain.

RADIATOR MAKE—G&O, G & O Mfg. Co.; Per, Perfex Corp.; Long, Long Mfg. Co.; Har, Harrison Radiator Corp.; Fed, Fedders Mfg. Co.; McC, McCord Radiator & Mfg. Co.; Mod, Modine Mfg. Co.; Hex, Hexcel Radiator Co.

CLUTCH MAKE—Jon, Jones Clutch & Gear Co.; Ful, Fuller & Sons Mfg. Co.; Borg, Borg & Beck Co.; Br-L, Brown Lipe Gear Co.; Rock, Rockford Drill & Machine Co.; Cov, Covert Gear Co.; Long, Long Mfg. Co.; Detr, Detroit Gear & Machine Co.; Mer, Merchant & Evans; Hel, Merchants & Evans.

UNIVERSALS MAKE — Spic, Spicer Mfg. Co.; Blo, Blood Bros. Machine Co.; Sup, Superior Universal Products; Un, Universal Products Co.; Cle, Cleveland Steel Products Corp.; Pet, Peters; Opt, optional; Mec, Mechanics Machine Co.

STEERING GEAR MAKE—Ross, Ross Gear & Tool Co.; Han, Hannum Mfg. Co.; Sag, Saginaw Steering Gear Co.; Gem, Gemmer Mfg. Co.; Col, Columbus Gear & Pump Co.; W-G, Warner Gear Corp.

CARBURETOR—Car, Carter; Mar, Marvel; Sch, Wheeler-Schebler; Str, Stromberg; DL, Detoit Lubricator; Til, Tillotson; Zen, Zenith-Detroit.

FUEL FEED—Gra, gravity; Vac, vacuum tank; P, fuel pump.

ELECTRICAL SYSTEM — AB, American-Bosch; Aut, Electric Auto-Lite; Eis, Eisemann; L-N, Leece-Neville; NE, North East; RB, Robert Bosch; DR, Delco-Remy.

TRANSMISSION—Br-L, Brown-Lipe; Cov, Covert; Ful, Fuller; Mec, Mechanics Machine; Mun, Muncie; W-G, Warner Gear; Cot, Cotta Gear Co.; Cla, Clark Equipment Co.

REAR AXLE—Cla, Clark Equipment; Col, Columbia; Eat, Eaton; Pont, Pontiac; Sal, Salisbury; Tim, Timken; Wis, Wisconsin.

FINAL DRIVE—IG, internal gear; St, straight bevel; Sp, spiral bevel; Wo, worm; 2R, double reduction; Ch, chain; S-T, semi-transverse.

TYPE OF SERVICE BRAKES—

B4IM, Bendix, 4 wheel, internal mechanical; B4MV, Bendix, 4 wheel, mechanical, vacuum; B6IA, Bendix, 6 wheel, internal, air; B4IMV, Bendix, 4 wheel, internal, mechanical, vacuum; BO4IMV, Bendix, own, 4 wheel, internal, mechanical, vacuum; BrIA, Bendix, operating on 4 rear wheels, internal air; BW4IM, Bendix front, Wisconsin rear, 4 wheel, internal, mechanical; BE4IM, Bendix front, Eaton rear, 4 wheel, internal, mechanical; B4IH, Bendix, 4 wheel, internal, hydraulic.

CB4IM, Columbia, Bendix, 4 wheel, internal, mechanical; C4IM, Columbia, 4 wheel, internal, mechanical; K2IM, Clark, 2 wheel, internal, mechanical.

L4IHVA, Lockheed, 4 wheel, internal, hydraulic, vacuum, air; LO4ID, Lockheed, own, 4 wheel, internal, drive shaft; LO4IV, Lockheed, own, 4 wheel, internal, vacuum; LT4DV, Lockheed, Timken, 4 wheel, drive shaft, vacuum; L4IH, Lockheed, 4 wheel, internal, hydraulic; L4IHA, Lockheed, 4 wheel, internal, hydraulic, air; L4IHV, Lockheed, 4 wheel, internal, hydraulic, vacuum; LT4IHV, Lockheed, Timken, 4 wheel, internal, hydraulic, vacuum; LT4IVA, Lockheed, Timken, 4 wheel, internal, vacuum, air; L6IHV, Lockheed, 6 wheel, internal, hydraulic, vacuum; L6IH, Lockheed, 6 wheel, internal, hydraulic.

O2IM, Own, 2 wheel, internal, mechanical; O2IV, Own, 2 wheel, internal, vacuum; O4IA, Own, 4 wheel, internal, air; O4IH, Own, 4 wheel, internal, hydraulic; O4IHV, Own, 4 wheel internal, hydraulic, vacuum; O4IM, Own, 4 wheel, internal, mechanical; O4IV, Own, 4 wheel, internal, vacuum; O4M, Own, 4 wheel, mechanical; O2XM, Own, 2 wheel, external, mechanical; O4XM, Own, 4 wheel, external, mechanical; O6IA, Own, 6 wheel, internal, air; OJXM, Own, jack shaft, external, mechanical; OL4IHV, Own, Lockheed, 4 wheel, internal, hydraulic, vacuum; OPX, Own, propeller shaft, external; OPXM, Own, propeller shaft, external, mechanical; OPM, Own , propeller shaft, mechanical; ORIV, Own, rear wheels, internal, vacuum; OTIHV, Own, Timken, internal, hydraulic, vacuum.

S4IM, Steeldraulic, 4 wheel, internal, mechanical.

T4rIA, Timken, operating on 4 rear wheels, internal, air; T4IA, Timken, 4 wheel, internal, air; T6IA, Timken, 6 wheel, internal, air; T2IMV, Timken, 2 wheel, internal, mechanical, vacuum.

W4I, Westinghouse, 4 wheel, internal; W4IA, Westinghouse, 4 wheel, internal, air; W6IA, Westinghouse, 6 wheel, internal, air; 4IA, 4 wheel, internal, air; 4IH, 4 wheel, internal, hydraulic; 4M, 4 wheel, mechanical.

WHEEL BASES given are standard, but optional wheel bases are available in many cases.

***CHASSIS WEIGHT** according to Automotive Daily News formula, which is the chassis with gas, oil, water and spare tire, but without cab or other equipment.

TIRES—B, balloon; D, dual; S, solid; P, pneumatic.

SPECIAL NOTATIONS

AMERICAN-LA FRANCE

*Chief model also available as 2½-ton model, 34x7 tire, dual rear; weight, 6,400. Price, $3,900.

Balloon tires optional on Chief and Big Chief models.

AUTOCAR

†Engines in these models are located under the driver's seat.

*Six-wheeler.

BROCKWAY

*Six-wheelers.

CHEVROLET

Utility model availale on 131-inch wheel base with chassis weight of 2,760 pounds and equipped with dual rear wheels.

DAY ELDER

*Six-wheeler.

Additional standard wheel bases are available on different models as follows:

60...156 — 160...165, 180, 204
75...156 — 240...204, 220, 232
85...156, 168 — 285...204, 220, 232
110...168, 186 — 345...204, 220, 232
130...169, 186, 187, 199 — 402...204, 220, 232

DIAMOND T

*Six-wheelers.

Additional standard wheel bases available as follows:—

551.....158 — 750.....167, 192
504.....166½ — 801.....180½, 199¼
506.....174 — 1200.....174½, 180
603.....157, 179 — 1600.....174½, 180
666.....177½ — 1601.....184

DODGE

*Models F40, F41, F61 and F62 can be had with double drop frame.

FWD

*Indicates six-wheel model.

The BTL and BT models are special line construction trucks in which complete provision for mounting AT and T earth boring machine, winch, body and other line construction accessories is included in the standard chassis.

Special power take-off transmission, which provides 3 power take-offs which may be operated in any transmission speed, optional on all models.

FEDERAL

*Six-wheelers.

*Also rated in pounds of total allowable weight as follows:—

D 2	8,500	T 10 D R	18,000
E 2	8,500	U 6	20,000
F 7	10,000	U 6 D R	20,000
A 6	13,500	A 6 S W	18,500
A 6 T	15,000	4 C 6 A	24,000
A 6 T W	15,000	4 C 6 A D R	24,000
D 2 S W	12,500	4 C 6 A B	24,000
E 2 S W	12,500	4 C 6 A B D R	24,000
D 2 D	12,500	X 8	30,000
E 2 D	12,500	X 8 D R	30,000
T 10 B	18,000	X 8 R	30,000
T 10 W	18,000	X 8 R D R	30,000

†Solid tires standard, no spare rim or tire.

GRAMM

Series	Straight Rating	Wheel Base	Pay Load Range
AX 4	8,000	157	1 to 1½ tons
AX 6	8,000	157	1 to 1½ tons
BX 4	10,000	157	1½ to 2 tons
BX 6	10,000	157	1½ to 2 tons
CX 4	12,000	157-180	2 to 3 tons
CX 6	12,000	157-180	2 to 3 tons
B	12,000	157-174	1¾ to 2½ tons
C	14,000	145-196	2 to 3 tons
D	17,000	145-196	2½ to 4 tons
E	20,000	145-196	3 to 4½ tons
EY	.....	.....	3 to 4 tons
G	24,000	160-235	4 to 6 tons
GY	.....	.....	4 to 5 tons
GW	28,000	157-240	5 to 7½ tons
HY	.....	.....	5 to 6½ tons

†Both the four and six cylinder are also offered in 157-inch wheel ase at $1,145 and $1,345, respectively.

GENERAL MOTORS TRUCK

*Capacity indicated is the Shraight Rating (combined weight of chassis body, equipment and pay load) for which each chassis is designed and guaranteed to satisfactorily operate under average conditions. The size of the tires used does not affect this Straight Rating, but to secure maximum tire mileage it is suggested that the total gross weight be limited to a "recommended gross weight" for each tire equipment based on tire capacity. Prices cover base chassis and vary with wheel base and tire combinations. The number of wheel base lengths, tire types, range of "recommended gross weights" and resulting pay load range (assuming nominal body allowance) for each model follows:—

Note: Models T-15 to T-61, inclusive, as well as models TX and WX, are available for export only as coach chassis.

Model	Wheel Bases	Tire Types	Range of Rec. Gross Weights*	Pay Load Range
T-11	1	1	3800	½
T-15	3	10	4500- 6500	½-1½
T-18	..	..	7500- 8200	1½-2
T-19	3	..	6800-10000	1½-2½
T-25	3	17	6800- 9000	1½-2
T-26	4	..	8500-11000	2-3
T-30	3	15	10000-12500	2-3
T-31	4	..	11000-14000	2½-4
TX 186½	1	..	14000	
WX 185	1	..	14500	
T-42	4	12	12000-15000	2½-4
T-44	4	12	12000-16000	3-4½
T-45	4	..	13500-16000	3-4½
WX 215	1	..	17000	
T-51	4	..	16500-19000	4-5½
T-55	4	..	16500-19000	4-5½
T-60	4	18	18500-22000	5-6½
T-61	4	..	19500-22000	5-6½
T-82	4	12	19000-24000	5-7
T-83	4	..	20000-24000	5-7
T-85	3	..	25000-30000	6-8
T-90	3	7	22000-28000	5-7½
T-95	3	..	30000-40000	7-11
T-96	3	..	28000-34000	7-9

†Models T-90, T-95 and T-96 are six-wheelers, the latter having one driven and one trailing axle. Optional rear axle gear ratios available for all models, except Model T-18. Double reduction axles available for Models T-60, T-61, T-82 and T-83.

INDIANA

*Six-wheelers.

INTERNATIONAL

*Stromberg carburetor optional.

MACCAR

†Six-wheeler.

MACK

Other wheel bases furnished on all truck models.

On 6-wheel jobs 4 rear wheels driven by chains, foot brake on 4 rear wheels.

††Made also in tractor models.

PIERCE-ARROW

*Optional final drive on Models PW, PX, PY and PZ.

REO

Models DF, FA, FE and FF are available with dual wheels at additional cost.

*Model DF X can be had with 3 speed transmission and single tires for $895.

SELDEN

Additional standard wheel bases are available on different models as follows:—

Model 37C..... — 162 and 181
39C..... — 177 and 190½
47CB, 47CD... — 151, 164 and 184
67C.....151, 164, 184 and 198

STEWART

Models 30 and 30X can also be supplied in 110, 120, 140 and 160-inch wheel base.

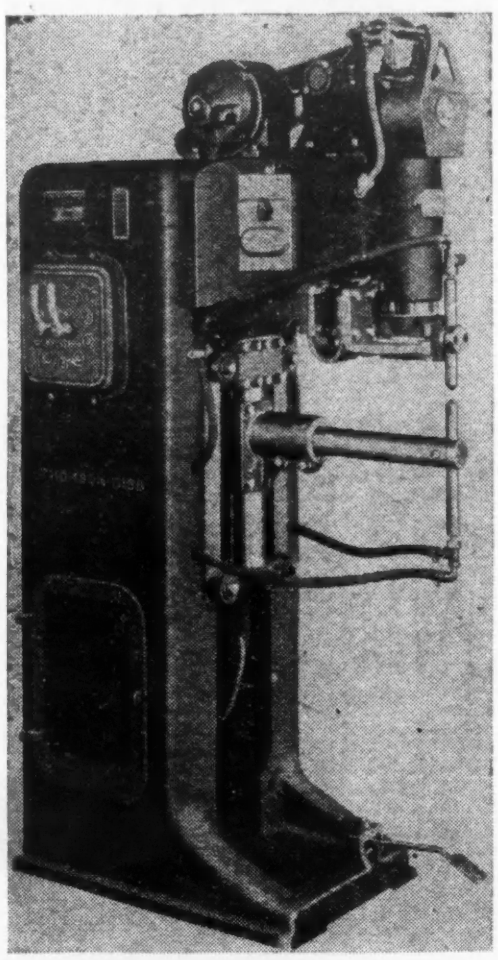
Models 40 and 40X can also be supplied in 110, 140 and 160-inch wheel base.

*Model 34X can be supplied in 135, 145, 160 and 176-inch wheel base.

Model 28X can be sup

Production--Engineering--Factory

Thomson-Gibb Company Offers New Press Welder



THE Thomson-Gibb Electric Welding Company, Bay City, Mich., is introducing a new model No. 1 press welder, which is claimed to be unusually smooth in mechanical action at speeds as low as 20 to 30 spots per minute to 200 to 250 spots. It is stated that at no speed is there any jerkiness of action or hammering.

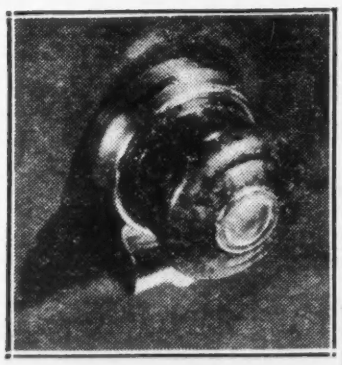
Another feature of this machine that is emphasized by the manufacturers is its flexibility, which permits readily changing the characteristics of the machine at a minimum expense to the user—that is, the throat depth of the machine already installed may be increased or decreased rapidly by installation of a relatively few inexpensive parts.

The machine, equipped to operate on one speed or a certain range of speeds, may be quickly changed to operate at different range of speeds. The device is sturdily built and completely self-contained.

Because of the adjustability of the lower arm vertically, the possibility of swinging it to one side or the other, rotating it around its own axis and the adjustability of the upper arm and electrode, the machine is almost universal in its application.

The machine may be supplied with transformers of several different ratings, so that it will accommodate the large range of material thicknesses and production requirements.

NEW CASCO HEATER OF CHROMIUM AND BAKELITE



The Casco line of cigar lighters has a new member in the Visolite. When this unit is hot and ready for use, the hot spot becomes red. It is claimed that there is no danger of overheating. The unit is placed in a recess to avoid danger of burning hands or clothes. The head of this lighter is made of chromium and mottled bakelite. The device comes into action when it is pressed until the red shows through the lens. The head is then removed and the lighter is ready to use.

TAFT-PIERCE CO. OFFERING A NEW ANGLE PLATE

The Taft-Pierce Manufacturing Company, Woonsocket, R. I., is offering an adjustable angle plate, which is designed to give a rapid, convenient method of setting up angular work on the grinder, milling machine, shaper, drill press or jig borer. By the use of this adaptable fixture, the time ordinarily consumed in devising means of setting up and holding such work is eliminated.

The fixture consists of a tilting table, 8 inches by 10 inches, hinged at one edge to a substantial base, which is rotatable on a sub-base fitted with holding lugs and a bottom key for securing to the machine table. Table and base of ample proportions are made from well-seasoned, fine-grained cast iron, ground to finish. Approximate weight seventy-five pounds.

The rotating base is accurately graduated, which makes possible a convenient and quick set-up for machining compound angles. The tilting table can be set for ordinary purposes by the aid of a built-in protractor, or, if extreme accuracy is required, sine bar buttons can be attached.

Advantages of this fixture, other than those already discussed, include absolute rigidity, moderate weight, and unusual stability obtained by keeping centers of gravity of work inside of hinge point of tilting table.

CAR HEADLAMPS OPEN GARAGE DOOR WITH G. E.-DEVICE

Schenectady, N. Y., Dec. 17.—The "electric eye" has a new task at the Albany, N. Y., service building of the New York Power and Light Corporation—a task that puts the "Open Sesame" of Aesop's Fables to shame. Unlike the fairy tale, not a word need be spoken to open the garage doors after the cover of darkness has fallen. Only the beam of an automobile headlight is necessary to have the door swing wide, automatically and magically.

A hole, about an inch and a half in diameter, has been drilled in the door and a protective glass covering placed over it. On the inside is a metal tube containing the General Electric photoelectric tube, and from this tube wires lead to the amplifying device attached to the wall of the garage.

The beam of the headlight penetrates the little glass window and strikes the light-sensitive surface of the photoelectric tube to a degree sufficient to actuate a relay which operates the regular electric door opening mechanism. Push-button switches operate the electric door opener during the daylight hours.

When the door has been opened, it remains open until the closing button has been pushed—in other words, the door does not close automatically. Once closed, however, it is again ready to open as soon as a headlight strikes the little window.

While there are always employees of the New York Power and Light Corporation on duty at the garage, they are not always located at the door. This installation makes it unnecessary for drivers either to wait for some one to open the door or to get out of the car to manually operate the door opener.

ELECTRIC ARC CUTTING OFFERING SPOT WELDER WITH SPRING ARMS

An addition to the line of the Electric Arc Cutting and Welding Company, Newark, N. J., is a special spot welding machine which permits the electrodes to move a short distance with the continuously fed pieces that are being welded together. At the end of their horizontal movement the electrodes snap back into position for the next weld and again move with the material as before.

The swinging movement is obtained through the use of spring arms instead of solid arms. The sidewise movement of the electrodes is from three to four inches, but can be increased with longer arms. Either foot or automatic control is provided.

SPRINGFIELD A. S. S. T. HEARS V. T. MALCOLM

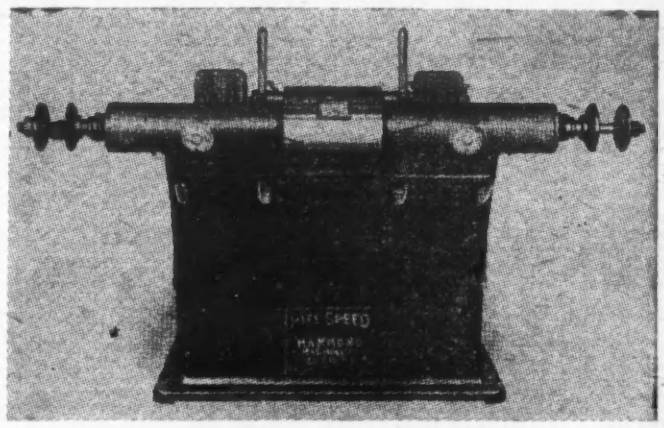
Springfield, Mass., Dec. 17.—Vincent T. Malcolm, metallurgical engineer with the Chapman Valve Manufacturing Company, spoke on "Spark Testing of Steels" at the regular monthly meeting of the Springfield chapter, American Society for Steel Treating. The meeting which was held in the assembly hall of the Springfield Trade School on Spring Street, was open to non-members.

Mr. Malcolm is well known through research work which he has done on the use of metals in development of high pressures and temperatures for steam stations and oil refineries.

ADDS MACHINE SHOP

West New York, N. J., Dec. 17.—Motor Service Parts Company of 700 Palisade Ave. offers cylinder boring, pin fitting, brake relining service, etc., in its newly installed machine shop. William '. Detgen is the proprietor.

Hammond Has a Two Motored Polishing Lathe



"RITE-SPEED" POLISHING and buffing lathe, with separator motor drives for the two spindles

THE Hammond Machinery Builders, Kalamazoo, Mich., are putting out a heavy duty polishing and buffing lathe. Each spindle of this lathe has its own motor, starter, multi-vee belt, switch and brake, so that the spindles can be operated separately.

The makers state that this machine is well adapted for service where wheel changes are frequent or the operation calls for different speeds. Any spindle speed can be had. The spindles overhang eight inches from their centers to the front of the pedestal. Tension of the multi-vee belts is adjustable by means of screw feed slide rails at the back of the pedestal. Either Hammond oiling or cascade oiling may be had. In the cascade system an oil pump driven by worm gearing forces oil through a Purolator filter and on through a continuous passage to the outside of the bearings, whence it is returned to the reservoir for further use.

Stewart Adds 8-Cyl. 2½ Ton Chassis at $2,390

(Continued From Page 1)

Stromberg instrument with 1½-inch S. A. E. two-bolt flange. Fuel feed is by pump, engine driven.

The clutch is a multiple disc, dry plate unit with ventilated drum. The throwout and clutch pilot bearings are inclosed and positively lubricated.

The transmission is a four-speed, unit power plant type, with ratios as follows: Low, 6.5 to 1; second, 3.7 to 1; third, 1.9 to 1; fourth, 1 to 1, and reverse, 7.8 to 1. An auxiliary transmission giving twelve speeds can be had at extra cost.

The drive shaft is a Spicer 2¼-inch tubular unit. Joints are dustproof and oil tight. On long wheelbase jobs where intermediate shafts and joints are necessary they are supported on extra large, self-aligning SKF ball bearings in oil-tight housings.

The rear axle is the full floating spiral bevel gear truck type. The housing is of cast steel, the outer ends being reinforced with alloy steel sleeves which support the wheel bearings. The diameter of the shaft is 1⅞" with the ends enlarged where the splines are cut. The standard gear ratio is 6.4:1. Special ratio at extra cost 7.12:1. The track is 72⅛" on standard cast steel wheels with dual tires. With the standard rear axle ratio the following reductions are obtained at the wheels: 1st, 44.4-1; 2nd, 23.6-1; 3rd, 12.1-1; 4th, 6.4-1; reverse, 50-1. Timken worm gear or double reduction rear axle can be furnished at extra cost.

Front axle is a drop forged "I" beam with spring pads forged integral. Timken taper roller bearings on hubs. Timken roller thrust bearing on king pins to insure easy steering. The axle has 64" tread.

Front springs are 40" long, 3" wide. Equipped with bronze bushings with 1" diameter spring pins. 11 leaves of alloy steel.

Rear springs are 50" long, 3" wide. Equipped with bronze bushings with 1¼" diameter spring pins. 14 leaves of alloy steel in main spring and 6 leaves in helper spring. Helper springs are standard equipment.

Steering gear is Ross cam and lever type, roller mounted, with low ratio for easy steering.

Side rail frame has a depth of nine inches.

Tubular radius rods are standard equipment.

Service brakes are 4 wheel Bendix, Duo Servo, integral expanding type, The front brakes are 16x2 inches, the rear brakes are 17¼x3 inches. The hand brake for parking is mounted on the rear of the transmission. It is 9 inches in diameter and 5 inches wide.

All wheels are of the cast, hollow spoke type. Duals are used in the rear.

All tires are 7.50-20 balloon front and 7.50-20 balloon dual rear. Oversize balloon tires may be had at extra cost.

Gasoline tank has a capacity of 31 gallons, located on side of frame. A special 30 gallon tank can be furnished under the seat.

Wheelbase is 170 inches standard. Short wheelbase 160 inches. Special wheelbase at extra cost are 180 inches, 196 inches and 226 inches.

Equipment includes electric starter, electric generator, electric lights, electric horn and battery, tool kit, jack, rear tire carrier, spare rim, front bumper, speedometer, windshield wiper and rear view mirror on all bodies and cabs; carburetor air cleaner, thermostat, stop light, and Alemite grease gun. The instrument board is equipped with ammeter, oil gage, starting choke button, lighting and ignition switch, indirect lighting, gasoline gage and temperature gage.

DEALERS

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